

DURBAN UNIVERSITY OF TECHNOLOGY

**HEALTHCARE PRACTITIONERS WITHIN THE MILIEU OF THE
COVID-19 PANDEMIC: A HOLISTIC RESPONSE TO
ENABLE WELLNESS**

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HEALTHCARE PRACTITIONERS WITHIN THE MILIEU OF THE COVID-19 PANDEMIC: A HOLISTIC RESPONSE TO ENABLE WELLNESS

A thesis submitted in fulfilment of the requirements for the Degree of Doctor of
Philosophy in the Faculty of Health Science

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DECLARATION

I, Mary Shamane Subhan hereby declare that all the content within this thesis is my own work. Researchers or authors that have contributed to this thesis have been duly acknowledged within.

7 July 2025

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08.07.25

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Signature of supervisor

Date of signature

DEDICATION

This study is dedicated to all healthcare workers who worked during the COVID-19 pandemic. Your unselfish sacrifices and dedication to your profession is highly commended and appreciated. To the healthcare workers who lost their lives to COVID-19, thank you for your ultimate sacrifice to save humanity, may you “Fly High on Eagles Wings”.



Blue Angel Wings (Illustration – Transparent Png Item)

Thank you Heavenly Father for your Goodness, Grace, Mercy,
Favour and Faithfulness in my life.

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ABSTRACT

The COVID-19 pandemic crippled healthcare systems globally, whilst exposing and exacerbating the weaknesses within the South African healthcare system. The virus overwhelmed the local healthcare system, reflecting that Africa has one of the weakest health systems globally. Within this milieu there was limited scholarly evidence at the onset of the pandemic related to how prepared South Africa was, for the onslaught of the virus. Undoubtedly the spread of the novel corona virus and the associated morbidity and mortality placed healthcare workers at increased risk because of their exposure to COVID-19 patients. There were several under recognized and unaddressed areas were the mental health sequelae linked to clinical and non-clinical stressors, such as the shortage of personal protective gear, deep fears of infecting loved ones, losing colleagues to the disease, personal struggles with COVID-19 infection and limited resources to address their recovery and wellness developed.

This provided the impetus for the current study which sought to understand how the COVID-19 pandemic affected healthcare workers at a physical, psychological, social, and spiritual level and to develop recommendations that would enable their well-being. Guided by a qualitative case study research design, data was gathered from five samples. The first four samples included doctors, professional nurses, enrolled nurses and paramedics who all worked at the forefront of the pandemic. In total these four samples were made up of sixty-five healthcare professionals, who were recruited from the uMgungundlovu health district in KwaZulu-Natal, South Africa. The latter reflected the boundaries of the case of this study.

All four samples were recruited using purposive non-probability sampling strategies, from a variety of healthcare settings within the district, namely a tertiary hospital, a district hospital, a field hospital, two ambulance bases, and tracer teams. Data was collected using semi-structured interviews for all four samples. The fifth sample was a group of wellness experts, who participated in a focus group discussion and contributed to the design of a wellness program. The latter was linked to a set of strategies that emerged to support the psycho-social wellness of the health care practitioners.

The data collected from the first four samples revealed huge deficiencies in the preparedness of healthcare institutions to manage the rapid onslaught of COVID-19.

The study found significant shortages in essential resources, including hospital beds, adequately trained personnel, and adequate supplies of personal protective equipment (PPE). Moreover, the healthcare workers interviewed were found to have had little preparation to cope with a pandemic of this magnitude which contributed to increased psychological distress. Post-acute sequelae of COVID-19 commonly referred to as long COVID-19, were reported amongst the participants, together with mental health complications such as anxiety, depression and post-traumatic stress disorder. In addition, healthcare workers were found to be at increased risk of being long COVID-19 haulers, leading to deep levels of exhaustion amongst this cohort.

The sheer volume of suffering and death witnessed by healthcare workers during the pandemic accentuated their psychological distress with many navigating personal and professional grief which emerged from the loss of loved ones, colleagues and their patients who rapidly succumbed to COVID-19. Of significance is several participants grappled with the virus themselves and spent time within the intensive care units in hospitals. Collectively these experiences underscored the complex toll of the pandemic on the healthcare workforce at a biopsychosocial and spiritual level.

One of the salient threads within the data was the huge chasm within the healthcare sector with regards to psycho-social support or other wellness related mechanisms that would enable the health and well-being of these healthcare workers. Leaders seemed to have adopted a reactive management style during the pandemic, rather than a proactive approach focused on anticipating and mitigating psychological distress. Many healthcare professionals began relying on religious and spiritual practices and other holistic wellness activities linked to music, gardening, mindfulness, and yoga, to cope. These wellness strategies coupled with those derived from sample five, which was a group of wellness experts, coalesced into a multifaceted wellness program. The newly designed wellness program embodied a range of holistic wellness strategies that was intended to help healthcare workers transcend the huge levels of post-traumatic stress encountered during the pandemic, whilst supporting their overall biopsychosocial and spiritual wellness.

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ABBREVIATIONS AND ACRONYMS

ABBREVIATIONS AND ACRONYMS	MEANING
BPSS	Biopsychosocial-spiritual
COIDA	Compensation for Occupational Injuries and Disease Act
COVID-19	Corona Virus Disease of 2019
D	Doctor
DASS	Depression, Anxiety, Stress Scale
DHS	District Health System
EAP	Employee Assistance Programme
EAPs	Employee Assistance Programmes
EMR	Eastern Mediterranean Region
EMRS	Emergency Medical and Rescue Services
EMTs	Emergency Medical Technicians
EN	Enrolled Nurse
FPP2	Filtering Face Piece with 2 layers of filtration
FPP3	Filtering Face Piece with 3 layers of filtration
GADS	Generalized Anxiety Disorder Scale
HAMA	Hamilton Anxiety Scale
HCW	Healthcare Worker
HCWs	Healthcare Workers
HIAC	High Income Arabic Countries

HIFC	High Income Foreign Countries
ABBREVIATIONS / ACRONYMS	MEANING
ICN	International Council of Nurses
ICU	Intensive care unit
IES-R	Impact of Events Scale Revised
IPC	Infection Prevention and Control
KZN	Kwa-Zulu Natal
LMIC	Lower Middle Income Country
LMICs	Lower Middle Income Countries'
MBSR	Mindfulness Stress Reduction
MST	Microsoft Teams
2019-nCoV	2019 novel coronavirus
NBI	Nature Based Intervention
NBIs	Nature Based Interventions
N95	Respirators that filter out 95 percent of airborne particles are given a 95 rating
NRS	Numeric Rating Scale
OHSA	Occupational Health and Safety Act
P	Paramedic
PN	Professional nurse
PPE	Personal Protective Equipment
PSN	Peer Support Networks
PTSD	Post-traumatic stress disorder

PUI	Person under investigation
RASG	Royal Agricultural Show Ground

ABBREVIATIONS AND ACRONYMS	MEANING
SA	South Africa
SANC	South Africa Nursing Council
SDS	Self-Rating Depression Scale
SARS	Severe Acute Respiratory Syndrome
SARS- CoV-2	Severe acute respiratory syndrome coronavirus 2
UAE	United Arab Emirates
UK	United Kingdom
USA	United States of America
USAID	United States Agency for International Development
USB	Universal Serial Bus
WHO	World Health Organization

OPERATIONAL DEFINITIONS

Anxiety: can be defined as a state of worry, restlessness, apprehension, tension and irritability, which is often accompanied by difficulty concentrating, cognitive blankness, fatigue, muscle tension, sleep disturbances, shaking, and sweating (Adwas, Jbireal, and Azab, 2019: 580; Chand and Marwaha, 2023: 5).

COVID-19: was caused by the novel coronavirus SARS-CoV-2, which is a highly contagious disease, spread primarily through respiratory droplets and contaminated surfaces (Casella, Rajnik, Aleem, Dulebohn and Napoli 2023: 8; World Health Organization 2020: 1; Abebe, Dejenie, Shiferaw and Malik 2020: 2). Although it manifested with typical flu-like symptoms that affected the respiratory system, it had the potential to rapidly escalate into severe respiratory distress, which necessitated mechanical ventilation (Abebe *et al.* 2020: 2; Casella *et al.* 2023: 8; World Health Organization 2020: 1).

COVID-19 waves: are characterized by a significant increase in infections above baseline levels, which leads to surges in patient volume and presents a considerable strain on healthcare systems (Jassat, Mudara, Ozougwu, Tempia, Blumberg and Davies M-A 2020: 3; Bulajic, Ekambaram, Saunders, Naidoo, Wallis, Amien, Ras, von Pressentin, Tadzimirwa, Hussey, Reid and Hodgkinson 2021: 1). These surges necessitated increased hospitalization of COVID-19 patients, thereby increasing the workload for healthcare personnel.

COVID-19 contact tracing teams: are teams comprising of nurses, who played a crucial role in mitigating the spread of COVID-19. Operating beyond the conventional confines of healthcare facilities, these teams engaged in fieldwork, conducting on-site investigations at the homes, workplaces, and schools of individuals exposed to confirmed COVID-19 cases (Republic of South Africa, National Department of Health 2020: 12).

This direct interaction with the public at large, provided invaluable perspectives into the lived realities of populations impacted by the pandemic.

District hospitals: operate within the ambit of the district health system. They function as crucial healthcare hubs within defined geographical areas, providing round-the-clock services. They are referral points for primary healthcare clinics and community health centers, staffed by general practitioners and clinical nurse practitioners who deliver essential primary care. In instances requiring specialized or intensive treatment, patients are transferred from district hospitals to regional or tertiary hospitals (Republic of South Africa, National Health Act, 61 of 2003: 2; KwaZulu Natal Department of Health 2023). This was evident during the COVID-19 pandemic, where patients who required advanced interventions like mechanical ventilation were transferred to tertiary hospitals equipped with the necessary resources.

Doctors: are formally educated and rigorously trained at accredited higher education institutions, culminating in the attainment of a Bachelor of Science in Medicine and Surgery. Legal practice mandates registration with the Health Professionals Council of South Africa (HPCSA) (Health Professional Council of South Africa 2018: 12; World Health Organization, 2019: 1). Those doctors who pursued specialized expertise in a particular medical domain are designated as specialists or consultants, often practicing within tertiary or academic hospital settings. Newly qualified doctors are mandated to complete a structured internship and community service period before achieving full HPCSA registration. Within the uMgungundlovu health district, these interns and community service doctors participate in a rotational programme, across district, regional, and tertiary hospitals, gaining diverse clinical experience.

Enrolled nurses: constitute a crucial cadre of nursing personnel in South Africa. These nurses complete a two-year nursing programme, at an accredited institution, which equips them to provide bedside nursing care under the supervision of a registered professional nurse. Their scope of practice, defined by the South African Nursing Council, Nursing Act 33 of 2005, necessitates continuous registration to legally practice within the Republic of South Africa. During the COVID-19 pandemic, enrolled nurses played a significant role, by contributing to basic nursing care within COVID-19 wards, participating in contact

tracing efforts, and providing support within field hospitals and always operated under the guidance and direction of professional nurses (Republic of South Africa, South African Nursing Council, Nursing Act 33 of 2005: 34).

Fear: is an adaptive emotion triggered by perceived danger and serves as a crucial survival mechanism. While adaptive in its function, excessive or prolonged fear can contribute to the development of anxiety disorders (Beckers, Hermans, Lange, Luyten, Scheveneels and Vervliet 2023: 233).

Field hospital: Field hospitals in South Africa were fixed buildings that were commissioned by the Department of health and repurposed to increase hospital bed capacity, thus accommodating an overflow of COVID-19 patients. These hospitals were equipped with healthcare workers and the relevant equipment to provide intermediary healthcare to patients (Bulajic *et al.* 2021: 2). One of the field hospitals in the uMgungundlovu health district was set up in halls of the Royal Agricultural Show Grounds, which catered for patients who required isolation but were unable to do so in their homes.

Healthcare practitioner: is an individual who is educated and trained to render direct or indirect healthcare and services to patients in hospitals or clients in primary healthcare settings. Healthcare practitioners, provide promotional, preventative, curative and rehabilitative care. They apply their theoretical knowledge and clinical skills to make a clinical diagnosis, plan a treatment regime for their patients, implement the treatment plan, and monitor and evaluate their patients' response to the treatment (World Health Organization 2019: 1). Some categories of healthcare practitioners, who provide direct care to the sick, include doctors, nurses and paramedics. These healthcare practitioners may also be referred to as healthcare professionals, healthcare workers and healthcare personnel.

Moral distress: is characterized as a psychologically painful imbalance where healthcare workers found themselves in situations where they were forced to implement protocols that conflicted with their personal values and ethical standards. These situations compromised their moral judgment, caused ethical dilemmas and moral uncertainty, which ultimately threatened their moral integrity (Kendall-Tackett and Beck 2022).

Moral injury: differs from moral distress in that it has long-term biological, psychological, social, behavioural and spiritual consequences. Management of patients during the COVID-19 pandemic resulted in healthcare workers bearing witness to acts that deeply transgressed their moral beliefs, ethics, values and expectations. Moral injury led to health care workers feeling guilt, shame and socially withdrawing (Rosen, Cahill and Dugdale 2022: 3740; Riedel, Kreh, Kulcar, Lieber and Juen 2022: 4).

Pandemic: is an epidemic whereby a virus infects people in a specific country, then spreads from the country of origin to numerous other countries, infecting many people in several countries at the same time (Cucinotta and Vanelli 2020: 157). South Africa was one of the countries that was most severely affected by the pandemic within a global and an African context. The first confirmed COVID-19 case, was in the uMgungundlovu health district.

Paramedic: in South Africa is trained to provide emergency care to patients in pre-hospital settings, such as the home of a patient, the street, workplace or any other public or private place. The services of paramedics range from first aid to advanced life support. The paramedic stabilizes the patient and then transports him or her to an appropriate healthcare institution. During the COVID-19, pandemic paramedics were the first responders who were involved in assessing COVID-19 patients in various settings in the community and transferring them to the district or tertiary hospital depending on the patient's need. They were also involved in inter-hospital transfers (KwaZulu-Natal Department of Health: 2020; World Health Organization 2019: 4).

Professional Nurse: is a nurse who is able to function independently, interdependently and dependently, depending on the nature of the work that he or she is performing. This category of nurse must have undertaken formal education and training at an accredited nursing education institution. It is mandatory to be registered with the South African Nursing Council to practice as a professional nurse. Professional nurses are responsible for assessing, planning, implementing and evaluating patient care, including those who are very ill and critically ill. The COVID-19 pandemic underscored the vital contribution of professional nurses, as they were frequently at the forefront of direct patient care in

diverse healthcare settings (Republic of South Africa, South African Nursing Council, Nursing Act 33 of 2005: 34; World Health Organization 2019: 4).

Stigma: in the context of health, involves a negative association between a person or group sharing specific traits and or a particular disease (WHO 2020: 1). This can manifest as labeling, stereotyping, discrimination, separate treatment, and loss of status based on a perceived connection to the illness. The ramifications extend beyond those directly affected by the disease, impacting caregivers, families, friends, and entire communities (WHO 2020: 1). The stigma of healthcare workers during the COVID-19 pandemic stemmed from their occupational role in institutions managing the disease, leading to a widespread assumption that they were inherently infected and posed a transmission risk. This perception, propagated by colleagues, family members, friends, and the general public, contributed to a climate of social ostracization and discrimination, thereby increasing healthcare workers' vulnerability to a range of mental health challenges.

Stress: is a state of worry or psychological tension that develops in response to a challenging situation. It is a response that stimulates people to address challenges and threats occurring in their lives, affecting both the mind and body. A limited amount of stress helps individuals perform their daily activities in the home and work environment which is referred to as occupational stress. Stress experienced by healthcare workers during the pandemic was excessive and negatively impacted their mental well-being (World Health Organization 2023; Gunasekra and Perera 2023: 109).

Tertiary hospitals: provide specialized healthcare services that includes but is not limited to intensive care services. The hospital receives referrals from district and regional hospitals. These hospital employ specialist doctors and nurses to provide the specialized healthcare to patients. During the COVID-19 pandemic the tertiary hospital in the current study was the designated hospital to care for patients requiring a higher level of care and mechanical ventilation (Republic of South Africa, the National Health Act, 61 of 2003: 3 and KwaZulu Natal Department of Health 2023).

Wellness: Is a state of optimal physical, psychological, social, emotional and spiritual health achieved through the adoption of healthy lifestyle choices and adopting behaviours that enhance health. It is further augmented by living and working in supportive

environments that are safe, peaceful and non-threatening. Strong family, social and work relationships enrich an individual's sense of wellness. An individual's wellness is further grounded in their spiritual beliefs, practices, morals and values. (Kauppi, Vanhala, Roos and Torkki 2023: 14; Shreffler, Petrey and Huecker 2020: 1064; Kaye-Kauderer *et al.* 2022: 418; Maffoni, Kalmpourtzidou and Cena 2020: 7; Maple *et al.* 2024: 6; Thom 2020: 717). The COVID-19 pandemic has had a demonstrably deleterious impact on the well-being of healthcare workers. Consequently, in the post-pandemic period, it is imperative that these individuals prioritize the restoration of their health and proactively engage in wellness interventions to ensure sustained overall well-being.

CHAPTER 1

“Health is a dynamic state of complete physical, mental, spiritual and social well-being and not merely the absence of disease or infirmity” (World Health Organization Constitution 1948).

Chapter one serves as the introductory chapter to this study. It introduces the chapter (1.1), background to the study (1.2), the global and South African health sector’s response to the COVID-19 pandemic (1.3), global response to the pandemic (1.3.1), South Africa’s response to the pandemic (1.3.2) and the promotion of wellness amongst healthcare workers (1.4). The chapter also provides an outline of the research problem (1.5), aim of the study (1.6), objectives (1.7), research questions (1.8), significance of the study (1.9), theoretical framework (1.10), organization of the thesis (1.11) and the conclusion of the chapter (1.12).

1.1 Introduction

On January 12, 2020, the World Health Organization (WHO) cautiously named a new emerging virus from China, as the 2019 novel coronavirus (2019-nCoV) (Li, You, Wang and Zhou *et al.* 2020: 81; WHO: 2020). The virus spread globally at an accelerated pace, leading the World Health Organization to officially classify COVID-19 as a pandemic on March 11, 2020 (WHO 2020; Lauxmann, Santucci, and Autran-Gomez 2020: 6).

The pandemic disrupted the lives of humankind globally, increasing morbidity and mortality rates in an unprecedented way. Of significance was that it had a profound impact on healthcare workers (HCWs), the cornerstones of the healthcare system, who were responsible for caring for the sick and dying (Nascimento, Silva, Tafner and Oliveira *et al.* 2023: 5; Bongelli, Fermani, Raccanello and Hall *et al.* 2023: 1; Alhour, Shokor, Marwa and Sharabi *et al.* 2023: 14; Gupta, Dhamija, Patil, and Chaudhari 2021: S282). COVID-19 transcended national, racial, and socio-economic boundaries, which resulted in it being declared a global health emergency. This necessitated a coordinated effort to address its relentless spread and impact on existing infrastructure, expertise, and the physical and mental health of humankind (Khalaf 2020: 25; Alfonsi, Scarpelli, Gorgoni and Couyoumdjian *et al.* 2023: 10; Chowdhury and Jomo 2020: 166).

The surge in infectious cases, the overwhelming workloads of healthcare workers, limited resources, and the high death toll amongst people, contributed to mental health distress such as anxiety and depression (Khalaf 2020: 25; Hausl, Ehmann, Pacher and Knodl *et al.* 2021: 487; Tong, Zhang, Huang and Yang *et al.* 2022: 5). These challenges had long-lasting effects on healthcare professionals, eroding their physical, psychological, social, and spiritual well-being.

1.2 Background of the study

By April 30, 2020, the global tally of confirmed COVID-19 cases had reached 3,024,059, with 208,112 deaths, underscoring the scale of the pandemic and the severity of what lay ahead. Healthcare workers, who were in daily contact with infected patients, faced a higher risk of contracting the virus and, in some cases, death (Xiao, Fang, Chen and He 2020: 844; Zhan, Qin, Xue and Zhu 2020: 2267; Kursumovic, Lennane and Cook 2020: 990). In 2021, Elezkurtaj, Greuel, Ihlow and Michaelis *et al.* (2021: 1), reported that COVID-19 had contributed to more than two million fatalities worldwide, which marked a substantial rise compared to the figures documented in the initial quarter of 2020.

Xiao *et al.* (2020: 845) and Antinori and Bausch-Jurken (2023: S4) asserted that hospitals, which were densely populated with staff and patients with compromised immune systems, became high-risk environments for the secondary transmission of infectious diseases. This was particularly true in settings such as emergency departments, infectious disease units, fever clinics, intensive care units, and respiratory medicine departments, where the risk to healthcare workers was heightened. A breach in infection control measures, further compounded this risk, increasing the likelihood of infection among healthcare workers (Xiao *et al.* 2020: 845; Rucker, Gustavsson, Rucker and Lindblom *et al.* 2021: 8). As a result, healthcare institutions had to quickly prepare and implement measures to protect both the workforce and patients from the novel coronavirus.

The onset of COVID-19 in December 2019 prompted researchers to revisit literature from prior pandemics, which lead them to earnestly consider the potential ramifications for the global health workforce and strategies for mitigation. Concurrently, a sense of urgency drove others to investigate the implications of COVID-19 on both the public and

healthcare professionals, as well as to identify governmental strategies to alleviate the consequences of this highly contagious virus. Considering the increasing number of hospitalizations, related to COVID-19, it became imperative for the global health sector to adopt effective measures aimed at curbing the virus's transmission, ensuring the availability of essential resources, and managing the virus throughout the ongoing waves of the pandemic.

1.3 THE GLOBAL AND SOUTH AFRICAN HEALTH SECTOR'S RESPONSE TO THE COVID-19 PANDEMIC

1.3.1 Global response to the pandemic

In 2007, the World Health Organization (WHO) underscored the critical need for disaster preparedness, emphasizing risk reduction and emergency management through an "All-Hazard/Whole-Health" framework (WHO 2007: 11). This "all-hazard" approach entailed the formulation of strategies capable of addressing a diverse array of emergencies, including natural, biological, technological, and societal incidents. It acknowledged that, despite the distinct nature of these disasters, they could present similar challenges. An effective disaster management plan should encompass early warning systems, intersectoral coordination, evacuation protocols, health service readiness, and community recovery initiatives, all of which must be flexible and primed for swift execution. The WHO's "Strategic Framework for Emergency Preparedness" (2017: 1) provided explicit recommendations for nations to strengthen their disaster preparedness strategies, ensuring they were both efficient and comprehensive.

Numerous studies have emphasized the need for preparedness, within the context of biological disasters, such as pandemics. This included ensuring infrastructure readiness, planning for patient flow, managing an influx of patients, and ensuring the availability of necessary equipment (Wong, Goh, Tan and Lie *et al.* 2020: 732; Aminizadeh, Farrokhi, Ebadi and Masoumi *et al.* 2020: 1; Dieckmann, Torgeirsen, Qvindesland and Thomas *et al.* 2020: 5; Tessema, Kinfu, Dachew and Tesema *et al.* 2021: 1). Additionally, disaster preparedness should incorporate the development of policies and standard operating procedures, such as deferring non-urgent surgeries to free up hospital beds and

establishing clear communication channels. These preparedness measures were to align closely with the World Health Organization's Strategic Framework for Emergency Preparedness (2017: 11), which advocated for comprehensive, adaptable plans to effectively manage health emergencies.

Effective preparation for the COVID-19 pandemic involved extensive training for healthcare workers, including proper use of personal protective equipment (PPE), infection prevention and control (IPC) protocols, managing COVID-19 patients, contact tracing, testing, and the redeployment of staff to critical areas. In addition to these technical skills, healthcare workers required psychological, physical, emotional, and spiritual support to build resilience, enabling them to care for themselves and cope with the emotional toll of witnessing widespread death. However, there was a notable gap in disaster preparedness among healthcare workers, particularly at the onset of the COVID-19 pandemic, highlighting the need for more comprehensive preparedness strategies (Wong *et al.* 2020: 732; Aminizadeh *et al.* 2020: 1; Dieckmann *et al.* 2020: 5; Tessema *et al.* 2021: 1). This gap highlighted the importance, not only of technical training, but also plans to address the holistic well-being of healthcare workers in future disaster preparedness plans.

It was crucial to assess whether human resource preparedness was adequately included in pandemic planning, the extent of its implementation, and its effectiveness in supporting healthcare workers. Given the strain on healthcare institutions, already overwhelmed by limited resources, the global health sector needed to implement strategies that would help control the pandemic. For preparedness plans to be effective, they would have to address not only the logistical and technical needs of healthcare systems, but also the psychological and emotional support of healthcare workers, who were at the front line of the crisis. The success of these strategies depended on the integration of human resource preparedness, ensuring that healthcare workers were adequately trained, supported, and resilient, while healthcare institutions were equipped to manage the surge in patient numbers and continue providing care, despite resource limitations.

Countries such as Italy, the United States, Ethiopia, and others rapidly prepared for the COVID-19 pandemic by addressing key infrastructure needs, including identifying

hospitals for COVID-19 patients, securing additional isolation and intensive care beds, and ensuring the availability of essential materials like PPE and mechanical ventilators for healthcare workers (Gilardino 2020: 505; Auerbach, O’Leary, Greysen and Harrison *et al.* 2020: 484; Ayele, Zerga and Tadese 2021: 887). Additionally, human resource preparedness was a central aspect of the planning, with efforts to deploy and train healthcare personnel, especially in critical areas such as intensive care units, and to establish leadership structures within healthcare institutions to manage the crisis.

Policies and guidelines were developed to ensure the safe and effective practice of healthcare workers during the pandemic (Gilardino 2020: 505; Auerbach *et al.* 2020: 484). These preparatory measures reflected the need for a comprehensive and coordinated response to the pandemic, addressing both physical infrastructure and human resources to ensure that healthcare systems could effectively manage the crisis.

Gupta and Federman (2020: 1) shared that a healthcare institution in the United States of America (USA) had adopted a multidisciplinary and participative leadership approach, in its response to the COVID-19 pandemic. This approach proved effective in rapidly preparing the institution’s infrastructure, human resources, and materials, while also developing the necessary guidelines. Additionally, training programs were implemented to ensure the safe use of PPE, and systems were established for screening both employees and patients entering the hospital, helping to control the spread of the virus (Gupta and Federman 2020: 1). This approach demonstrated how leadership, collaboration, and well-coordinated planning were key to managing the crisis.

The preparedness strategies implemented by American institutions were consistent with the broader global response, where many countries followed similar principles outlined by the World Health Organization (WHO) (2017: 11) and other evidence-based practices. Most countries adopted recommendations focused on improving healthcare infrastructure, ensuring the safety of healthcare workers, and developing screening and preventive measures to mitigate the spread of COVID-19. This alignment reflected the effectiveness of globally recognised guidelines and the importance of using evidence-based approaches in preparing for and responding to the pandemic

1.3.2 South Africa's response to the pandemic

South Africa's Disaster Management Act 57 of 2002, as amended, provided a comprehensive framework for disaster preparedness and response, covering both natural and man-made disasters. The Act outlined the potential impact of disasters, including injury, disease, death, property damage, and community disruption (Republic of South Africa, Department of Cooperative Governance 2002: 7). Preparedness occurs at multiple levels of government, national, provincial, district, and local municipalities, thereby ensuring a coordinated approach to disaster management (Republic of South Africa, Department of Cooperative Governance 2002: 30).

The Act mandates the identification of risks and vulnerable communities, the implementation of early warning systems, provision of emergency transportation, availability of disaster funds, shelter for refugees, and adequate healthcare facilities for the injured and sick. It also emphasises the importance of pre-disaster training for human resources, the availability of financial and material resources, and emergency procurement systems (Republic of South Africa, Department of Cooperative Governance 2002: 30).

In response to the COVID-19 pandemic, South Africa effectively implemented the provisions of this Act, to mitigate the impact of the spread of the virus. The Act's emphasis on preparedness, resource mobilisation, and coordination across governmental levels helped to manage the pandemic's challenges, including risk identification, healthcare provision, and the allocation of necessary resources. This alignment of disaster management principles with the COVID-19 response, illustrates the value of structured, pre-established disaster frameworks in handling public health emergencies. South Africa's response to the COVID-19 pandemic began swiftly with the announcement of its first confirmed case on March 5, 2020 (Mkhize 2020; Nguse and Wassenaar 2021: 304). Ten days later, President Cyril Ramaphosa declared a "State of National Disaster" as the country experienced a rapid surge in cases, with cases reaching 1,170 and one death (Humanitarian Data Exchange 2020; Hatefi, Smith, and Abou-El-Hossei 2020: 159). In response to this escalating crisis, the government imposed a stringent lockdown at level

5, which was the most restrictive of the country's five lockdown levels. These levels ranged from level 5, with strict restrictions, to level 1, which allowed for the least stringent measures (Olivier, Botha, and Craig 2020: 205763; Stiegler and Bouchard 2020: 696). This tiered system allowed the government to adjust restrictions, as the pandemic progressed, balancing public health concerns with economic and social impacts.

The decision to implement a national lockdown demonstrated South Africa's proactive approach to curbing the spread of the virus, prioritizing public health while adjusting the severity of restrictions based on the situation. In response to the COVID-19 pandemic, South Africa implemented a range of strict preventative measures aimed at curbing the spread of the virus. These included social distancing, requiring individuals to maintain 1-1.5 meters, which led to the closure of schools, universities, and workplaces (Sifunda, Mokhele, Manyapelo and Dukhi *et al.* 2020: 1). Public transportation was limited, mass gatherings were prohibited, and non-essential businesses were closed. Furthermore, travel restrictions were enforced, and regulations were put in place to control the number of shoppers in stores. The government also restricted close contact with individuals outside the household to prevent transmission (Sifunda *et al.* 2020: 1).

A key aspect of these restrictions was the prohibition of mass gatherings, which had become hotspots for outbreaks. This included strict controls on funerals, where severe protocols had to be followed, which impacted the cultural practices of South Africans (Sifunda *et al.* 2020: 1; Mutanga, Ngungu, Tshililo and Kaggwa 2021: 2; Khosa-Nkatini and White 2021: 3; Kgadima and Leburu 2022: 2; Republic of South Africa, the Department of Cooperative Governance 2020: 9; Buqa 2024: 9). While these measures were essential for public health, they also posed significant social and cultural challenges, particularly regarding funeral practices, reflecting a tension between public health imperatives and cultural norms. The overall response demonstrated South Africa's attempt to balance the need for stringent public health measures, with the recognition of the social and cultural implications of these restrictions.

To further curb the spread of COVID-19, South Africa implemented quarantine measures for individuals exposed to infected persons and self-isolation protocols for those

diagnosed with the virus (Sifunda *et al.* 2020: 1; Mutanga *et al.* 2021: 2). In addition, stringent curfews were enforced to limit public movement, including restrictions on travel between Provinces and restrictions on movement late in the evening. As a result, the streets of South Africa became largely empty, with only essential workers such as healthcare staff, first responders, and food service employees seen on the roads daily. These measures were designed to reduce person-to-person transmission and ensure that only critical activities continued during the height of the pandemic, highlighting the country's commitment to stringent containment efforts during the crisis. However, they also placed significant strain on the economy and daily life, whilst drawing attention to the plight of frontline workers caught up in the milieu of the virus.

According to Moonasar, Pillay, Leonard and Naidoo *et al.* (2021: 4), the lockdown measures in South Africa were effective in providing healthcare managers with crucial time to prepare their institutions for the anticipated influx of COVID-19 patients. This period allowed healthcare facilities to implement necessary plans and strategies to manage the pandemic's impact (Furstenburg, Mukonkole, Kibamba and Kuiler *et al.* 2020: 2; Parker, Karamchand, Schrueder and Lahri *et al.* 2020: 2; Rangai, Ramkillawan and Smith 2022: 34).

The district health system (DHS) plays a pivotal role in South Africa's disaster preparedness and response framework. While preparedness initiatives occur across various governmental tiers: national, provincial, district, and local, fostering a coordinated approach to disaster management, the DHS forms the crucial operational backbone. Characterized by a tiered structure, the DHS provides a spectrum of care, with primary healthcare clinics offering basic services, district hospitals administering a higher level of treatment, and tertiary facilities delivering specialized care. Due to disparities in the scope and complexity of healthcare services, district hospitals and tertiary healthcare institutions adopted divergent preparedness strategies (Rangai, Ramkillawan and Smith 2022: 37; Furstenberg *et al.* 2020: 4; KwaZulu-Natal Department of Health 2024).

However, despite the opportunity to prepare, healthcare managers were uncertain about how the pandemic would unfold, which posed challenges in anticipating the full scale of the crisis. The preparation efforts included organizing resources, setting up patient care

protocols, and ensuring that healthcare workers were ready. The lack of clarity regarding the pandemic's progression, however, created an element of unpredictability in their planning. These efforts underscored the importance of adaptability and swift decision-making within the context of healthcare management during a rapidly evolving global health emergency.

1.4 Promotion of wellness amongst healthcare workers

Healthcare workers, are the most valuable asset within healthcare systems which necessitates, that measures be taken to ensure their physical, psychological, social, emotional, spiritual, and environmental health (Kauppi, Vanhala, Roos and Torkki 2023: 1; Olcon, Allan, Fox and Everingham *et al.* 2022: 1, Maple, Willis, Lewis and Putland *et al.* 2024: 1). Despite this, the literature on the wellness of healthcare workers within the South African context is limited (Whyte 2020: 27). Over the past five years researchers have focused primarily on the adverse physiological effects of COVID-19 on healthcare workers, with the hugest attention being paid to developing a vaccine. At the onset of the pandemic, little empirical attention was devoted to the wellness of healthcare workers and the protective behaviors and wellness interventions required to enable their well-being (Shreffler, Petrey and Huecker 2020: 1063; Vyas-Doorgapersad 2023: 91; Kaye-Kauderer, Loo, Murrough and Feingold *et al.* 2022: 416).

The Global Wellness Institute (GWI) defined wellness as, “the active pursuit of activities, choices, and lifestyles that lead to a state of holistic health (Yeung and Johnston 2020: 6). Melchert (2020: 38) shared that a consistent, clear and consensual definition of wellness, is lacking within literature. Hence some scholars have used the terms wellness and well-being synonymously or interchangeably within literature. The World Health Organization’s definition of health reflects that it is “a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity”. This suggests that wellness is a multifaceted and multi-dimensional concept, as it is affected by a multitude of factors that influence health (World Health Organization: 1948). Melchert (2020: 38) further argued that in recent years wellness is best described through a biopsychosocial perspective, which would be inclusive of the domains mentioned below.

The common domains of wellness include the physical, psychological, social, emotional, spiritual and environmental aspects of a person's life (Kauppi *et al.* 2023: 14; Yeung and Johnston 2020: 6), therefore suggested that these domains be included in the development of a wellness program. Yeung and Johnston (2020: 6) wrote that the physical domain was related to adopting a healthy lifestyle to promote physical health and the mental domain, was concerned with positive psychological health. The emotional domain involved having an awareness of one's feelings, accepting, expressing and demonstrating them and understanding the feelings of others. The spiritual dimension was said to focus on an individual's search for meaning and higher purpose and the social domain on how an individual relates to and communicates with others. Lastly, the environmental domain related to the aspects related to positive interrelationships that occur between earth, human actions, choices and well-being (Yeung and Johnston 2020: 6).

The definition of wellness adopted for the current study is holistic in nature and embraces the primary domains of wellness. Wellness is defined as a holistic state of optimal physical, psychological, social, emotional and spiritual health, which is achieved through the adoption of healthy lifestyle choices, behaviors and activities that enhance health and lead to quality of life. It is further augmented by living and working in supportive environments that are safe, peaceful and non-threatening. Strong family, social and work relationships further enrich an individual's sense of wellness. An individual's wellness is further grounded in their spiritual beliefs, practices, morals and values (Kauppi *et al.* 2023: 14; Shreffler, Petrey and Huecker 2020: 1064; Kaye-Kauderer *et al.* 2022: 418; Maffoni, Kalmpourtzidou and Cena 2020: 7; Maple *et al.* 2024: 6; Thom 2020: 716; Oliver, Datta and Baldwin 2020: 1; Yeung and Johnston 2020:6). Thom (2020: 716), asserted that COVID-19, presented an opportunity for healthcare leaders in South Africa to develop a more compassionate and healthy healthcare system to support and maintain the well-being of the health workforce during and post the pandemic.

1.5 The research problem

The research problem emerged from preliminary studies which began capturing the impact of the COVID-19 pandemic on the psycho-social well-being of healthcare workers

globally. Studies in countries such as North America, Canada and Pakistan began documenting the increased rates of depression, anxiety, stress, burnout, and insomnia amongst health care workers (Styra, Hawryluck, McGeer and Dimas *et al.* 2022: 421; Riaz, Rafai, Ussaid and Masood *et al.* 2021: e296).

Another study found that healthcare workers faced unique difficulties related to the lack of personal protective equipment and insufficient human resources to cope with the effects of the pandemic (Chersich, Gray, Fairlie and Eichbaum *et al.* 2020: 1). Numerous studies conducted in countries such as Iran, Italy, the United Kingdom, the United States, Ghana, and South Africa, have underscored the significant risks faced by healthcare workers in terms of contracting the virus, with many tragically losing their lives to the virus. Furthermore, the loss of family members and colleagues to COVID-19, further intensified their stress and grief (Mohammadi, Farjam, Gholampour and Sohrabpour *et al.* 2021a: 5; Sabetian, Moghadami, Haghighi and Shahriarirad *et al.* 2021: 5; Nioi, Napoli, Lobina and Fossarello *et al.* 2021: 2; Kursumovic, Lennane and Cook 2020:990; Rabow, Huang, White-Hammond and O Tucker 2021: 653; Lartey, Kenu, Ganu and Asiedu-Bekoe *et al.* 2023: 12; Dawood, Tomita and Ramlall 2022: 2).

Most of these studies were constructed using quantitative research designs. Hence, whilst they provided valuable data on infection and mortality rates, as well as the prevalence of mental health problems, there was limited research that delved into the nuanced or in-depth experiences of healthcare workers immersed in the milieu of the pandemic, through the lens of qualitative research approaches. The latter was crucial to understanding their work experiences, within what was already a fragile healthcare system and to understanding how their physical, mental and social vulnerabilities, caused by the pandemic, had affected their well-being. The study was conceptualized at a time, when research on the experiences of healthcare workers working at the forefront of the pandemic was sparse in the South African context.

The International Council of Nurses (ICN) reported, that 115,000 healthcare workers worldwide, had died from COVID-19 by May 2021, which reflected the devastating toll on this workforce (ICN 2021). In South Africa alone, a significant number of healthcare workers lost their lives, which exemplified the emotional and professional strain faced by

the remaining healthcare staff (Heywood 2021). The pandemic presented unprecedented challenges, particularly for countries like South Africa, where healthcare workers, had no prior experience of a pandemic of this magnitude and lacked the resources that were available in more developed countries to cope with its devastating trail. An exploration of these challenges was also crucial to understanding how the South African context, would need to strengthen not only its healthcare systems, but better support its healthcare workers, who had to cope with a rapidly evolving and insidious virus, that had debilitating effects on their personal and professional abilities to cope.

Moreover, healthcare workers endured the dual burden of caring for patients, whilst dealing with their personal grief as their own family members were also affected by the virus. This prompted the need to explore how the roles of healthcare workers were affected during the pandemic and to understand what psychosocial and spiritual support systems were in place to support them. Moreover, it sought to make recommendations for a holistic wellness program, to ensure that wellness interventions and strategies were in place to help healthcare workers cope with the immediate and long-term effects of the pandemic.

1.6 Aim of the study

The aim of the study was to explore and understand the physical, psychosocial and spiritual challenges that confronted frontline healthcare workers at the forefront of the COVID-19 pandemic.

1.7 Objectives of the study

1.7.1 To understand how healthcare professionals experienced working at the forefront with COVID-19 patients and analyze the readiness of the healthcare systems for the pandemic.

1.7.2 To describe the physical, psychosocial and spiritual effects of working with COVID-19 patients.

1.7.3 To explore how working with COVID-19 patients impacted healthcare workers' family life.

1.7.4 To determine the social stigma and discrimination encountered by healthcare workers during the pandemic.

1.7.5 To explore whether the healthcare system had made provision for the psychosocial support for healthcare workers, and to understand what psychosocial and spiritual systems could have created greater support.

1.7.6 To make recommendations for a holistic physical, psychosocial and spiritual support program that will enable wellness during and post the COVID-19 pandemic.

1.8 Research questions

1.8.1 What were the experiences of healthcare professionals working at the forefront with COVID-19 patients and how did healthcare institutions prepare for the pandemic?

1.8.2 What were the physical, psychosocial and spiritual effects of working with COVID-19 patients?

1.8.3 How did working with COVID-19 patients' impact on healthcare workers' family life?

1.8.4 How did healthcare workers experience social stigma and discrimination during the COVID-19 pandemic?

1.8.5 How did the healthcare system provide support for healthcare workers and what strategies could be implemented to create greater support?

1.8.6 What recommendations can be made for the development of a holistic physical, psychosocial and spiritual support program that will enable wellness during and post the COVID-19 pandemic?

1.9 Significance of the study

Initial studies on the physical and psychosocial effects of COVID-19 on healthcare workers, were influenced by knowledge emerging from previous pandemics such as Middle East Respiratory Syndrome coronavirus (MERS) and Severe Acute Respiratory Symptom (SARS) (Shaukat, Ali, and Razzak, 2020; 6; Spoorthy, Pratapa, and Mahant, 2020; 3; Xiao *et al.* 2020: 844). However, the COVID-19 pandemic emerged as a distinct virus, through its rapid spread and the overwhelming strain it placed on the healthcare system globally. An early study conducted in Spain reported that healthcare professionals were experiencing psychological symptoms very early in the pandemic, and as the crisis escalated, these symptoms worsened, contributing to increased depression, anxiety, and stress amongst this cohort (Dosil, Ozamiz-Etxebarria, Redondo and Picaza *et al.* 2020:

4). Tekin, Glover, Greene and Lamb *et al.* (2022: 1) similarly highlighted that the increased distress experienced by family members of healthcare workers in the United Kingdom (U.K.), was exacerbated by the risk of infection and the traumatic stories shared by healthcare professionals.

In SA there was a lack of empirical studies related to the experiences of health care workers, thereby providing the impetus for the current study. One of the studies undertaken by Kelly, Glinski, Laurenzi and Mangqalaza *et al.* (2021: 67), found that nurses in the Eastern Cape, in South Africa, faced high levels of stress, trauma, and fear, as they had to work in close proximity with COVID-19 patients.

By August 2020, 27,360 of the healthcare workers in South Africa, had tested positive for COVID-19, with a significant proportion of them being those working in the public sector. Of these, 240 private and 203 public healthcare workers died from COVID-19 (Mkhize, South African National Department of Health 2020). News reports also indicated that re-infections were common among healthcare workers, with nurses being more affected due to their close contact with patients (Bateman 2021). These alarming statistics underscored the urgent need for studies that would explore the effects of COVID-19 on healthcare workers.

Whilst numerous quantitative studies emerged from countries across the globe, very few qualitative studies existed, which explored the experience of working at the forefront of the pandemic and how it affected the psycho-social well-being of healthcare workers. This created the research gap within the SA context, and led to the conception of a study that would develop recommendations for a wellness program for healthcare workers who had worked at the forefront of the pandemic.

This study therefore aimed to explore how various groups of healthcare workers, namely doctors, professional nurses, enrolled nurses, and paramedics across different healthcare settings, including hospitals, emergency departments, field hospitals, emergency services and tracing and testing teams experienced the pandemic, the challenges they encountered and how their psycho-social well-being was affected. A

collective group of healthcare workers were recruited to understand the unique and diverse experiences of these different professionals. This strengthened the value of the study, particularly because of its intent to develop a set of recommendations that could enable the healing and recovery of those affected by working with COVID-19 patients, whilst confronting their own vulnerabilities and illness under difficult circumstances. It also focused on the wellness strategies, used by the healthcare workers, in an effort to incorporate these interventions into the recommendations that all other healthcare workers could use, post the intense surges of COVID-19. Through developing insights into the experiences of healthcare workers, the study endeavored to inform the development of policies that could build a case for more employee-centered policies and programs that could support the wellness of healthcare workers and ensure their retention within the healthcare system. Moreover, it lent support for more effective monitoring and evaluation of these policies to ensure that healthcare workers' needs were prioritized.

1.10 THEORETICAL FRAMEWORK

1.10.1 The biopsychosocial and spiritual framework

The biopsychosocial-spiritual model is underpinned by four key dimensions, namely the biological, psychological, social, and spiritual dimensions (Vermette and Doolittle 2022: 2062). This model is based on the principle that these dimensions are interdependent, thereby highlighting their intrinsic interconnectedness. This suggests that an imbalance in one area of a person's life can interact, influence and disrupt the other part. This framework is therefore premised on the notion that holistic health is achieved through balance across the physical, mental, social, and spiritual aspects of a person's life (Vermette and Doolittle 2022: 2062). To achieve overall well-being, all four dimensions must therefore be in harmony with each other. It was adopted as the guiding framework in the current study, as it offers a holistic understanding of human health, wellness, and illness.

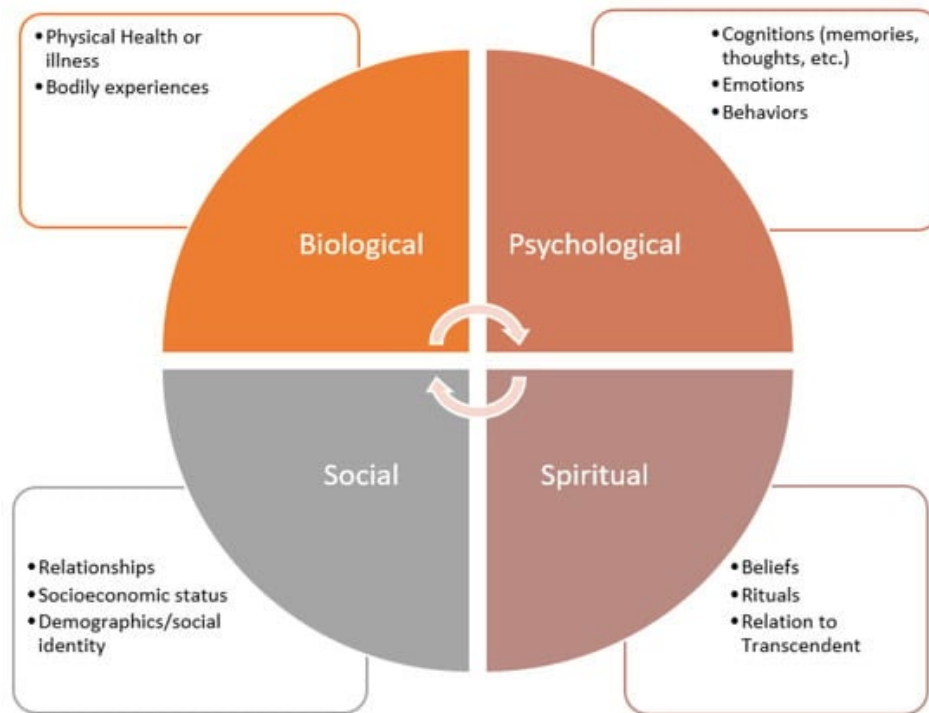


Figure 1.1: The Biopsychosocial and spiritual framework (Cooper 2022: 8)

Prior to George Engel’s innovative approach, medicine had focused solely on the biological aspects of health, whilst neglecting the psychological and social dimensions (Rosen 2020: 20). According to Rosen (2020: 20), Engel had proposed that the spiritual dimension is closely intertwined with the biological, psychological, and social aspects of an individual's life, thereby highlighting the need for interrelatedness of these dimensions in influencing health and well-being. Hence, the spiritual dimension was integrated into the model, which led to it evolving into the holistic “biopsychosocial and spiritual model” (Van Denend, Ford, Berg and Edens, *et al.* 2022: 3571; Braganza and Oliveira 2022: 94).

Gale, Therivel, and Richman (2022: 2) argued that the biopsychosocial model has been widely adopted, across various healthcare settings, by diverse groups of healthcare professionals, particularly in clinical practice, where it helps in developing and organizing guidelines. The popularity of this model has emerged from the growing recognition that health and illness coalesce from a complex interplay between biological, psychological, social, and spiritual factors. The model has been increasingly supported, within the context of the rising prevalence of chronic diseases and their financial impact on the

healthcare industry. A key advantage is its person-centred approach, which emphasizes the holistic needs of an individual (Gale, Therivel, and Richman 2022: 8; Vermette and Doolittle 2022: 2062; Mohamed, Voo, Maakip, and Robinson 2022: 5; Calabro, Accardi, Aiello and Caruso *et al.* 2023: 5; Courtney, Schadeegg, Bolton and Smith *et al.* 2024: 70).

The current study adopted the biopsychosocial and spiritual framework because of its multi-faceted and holistic approach to well-being. The four dimensions, entrenched within the biopsychosocial-and spiritual framework mutually reinforce and support each other. They are discussed in the sub-sections that follow.

1.10.2 Dimensions of the Biopsychosocial-spiritual framework

1.10.2.1 Biological dimension

The biological dimension of health encompasses several factors that can either contribute to wellness or ill-health in an individual. These include age, gender, immune status, genetics, and inherited diseases. A key element in physical or biological wellness is the adoption of a healthy lifestyle, which plays a crucial role in maintaining overall health.

Several studies have emphasized the importance of lifestyle choices in promoting physical wellness. A healthy lifestyle, which includes regular physical activity, proper nutrition, stress management, and the avoidance of harmful habits like smoking or excessive alcohol consumption, is pivotal to preventing illness and enhancing immune function. Furthermore, genetic and inherited factors can predispose individuals to certain health conditions, influencing their susceptibility to diseases, thus making genetic counselling and awareness important (Haynes 2020: 2; Carsetti, Quintarelli, Quinti and Mortari *et al.* 2020: 415; Migliore, Nicolì and Stoccoro 2021: 4; Berbudi, Rahmadika, Tjahjadi and Ruslami 2020: 442; Turcios 2020: 238; Vermette and Doolittle 2022: 2062).

In summary, biological health is shaped by both intrinsic factors, such as genetics and immune status, and external factors, like lifestyle choices. A combination of these factors determines an individual's overall physical wellness and their risk for developing various health conditions. The aforementioned studies highlight the importance of a proactive

approach to maintaining health through lifestyle modifications, together with considering genetic and biological predispositions.

1.10.2.2 Psychological dimension

The psychological dimension of health also influences an individual's overall well-being, as it involves psychological processes that directly influence emotional health and physical functioning. The key elements in this dimension include personality traits, stress, emotions, attitudes, and beliefs. Alterations in psychological status can lead to imbalances which influence other aspects of health, thereby highlighting the interconnectedness of the physical and psychological factors within the biopsychosocial framework.

Psychological wellness is achieved when an individual experiences positive emotional health. The latter is related to factors such as positive social relationships, autonomy, a sense of purpose, environmental mastery, and personal growth. These elements contribute to a person's overall mental and emotional functioning, thereby promoting their resilience and well-being (Schlatter, Louisy, Canada and Therond *et al.* 2022: 5; Viertio, Kiviruusu, Piirtola and Kaprio *et al.* 2021: 12; Kaya and Tanriverdi 2023: 1; Raj and Agnal 2024: 28).

In summary, psychological wellness is not just about the absence of mental illness, but also about achieving emotional stability and personal growth. A positive emotional state, healthy coping mechanisms for stress, and strong interpersonal relationships are essential for maintaining psychological balance and can help individuals navigate life's challenges and lead to a fulfilling and meaningful life.

1.10.2.3 Social dimension

The social determinants of health are conditions in which individuals are born, grow, live, work, and age, thereby shaping their overall health and well-being (Artiga and Hinton 2018: 1). These factors are integral in influencing health outcomes, as they encompass a wide range of social, economic, and environmental elements. Key determinants include

early childhood development and family dynamics, education, economic stability, housing, and shelter, as well as access to food, transportation, and safe working conditions. Additionally, cultural factors, technology, access to healthcare services, and experiences of isolation and stigma or discrimination also play a significant role in health (Whitman, Lew, Chappel and Aysola 2022: 1; Isgur, Haflett, Tsouderos and Comer *et al.* 2019: 13; Vermette and Doolittle 2022: 2064).

The effects of these social determinants are extensive. For instance, experiences during early childhood and the dynamics within families can affect long-term health outcomes significantly. Additionally, economic circumstances play a critical role in determining access to vital resources, including nutritious food, safe housing, and healthcare services. Furthermore, social issues such as stigma and discrimination can lead to both mental and physical health difficulties, highlighting the importance of incorporating these social factors into healthcare interventions. Access to education and healthcare, along with robust social support systems, also significantly impacts an individual's capacity to sustain health and overall well-being. In summary, the social determinants of health are foundational factors that shape the conditions under which people live.

1.10.2.4 Spiritual dimension

Spirituality entails an individual's search for a sacred connection that could be "supernatural or an ultimate reality" (Jensen 2021: 278). It has also been described as a "dynamic and intrinsic aspect of humanity through which persons seek ultimate meaning, purpose and transcendence, and experience relationship to self, family, others, community, society and nature. It is driven by a "search for the sacred or a process through which people (i.e. individuals and groups) seek to discover, hold on to, and, when necessary, transform whatever they hold sacred in their lives" (Celano, Harris, Sawyer, and Hamilton 2022: 189; Pargament 2023: 213). Spirituality is therefore seen as an autonomous component, with its favourable features such as giving meaning and purpose to illness, the value of ritualistic practices and reading sacred texts. Pargament (1997, cited in Exline, Pargament, Wilt, Pait and Schutt 2023: 105), argued that during times of crises and stress, people tend to adopt various spiritual coping strategies. Spirituality

forms part of the human psyche that underpins the well-being of healthcare workers, their patients and families. A belief in the sacred or divine can lead to positive psychological states of healing, contentment, peace and hope.

The biopsychosocial-spiritual framework is multidimensional in nature, with each of the four domains interdependent on each other (Braganza and Oliveira 2022: 95; Courtney *et al.* 2024: 69). A physical imbalance that brought on sudden illness, may result in stress and anxiety thereby precipitating a psychological imbalance. The illness which may require hospitalization, can lead to financial strain which may result in social imbalances. This financial strain may also influence the economic stability of the family and threaten their ability to be financially secure. In this time of crisis, an individual may choose to turn to spiritual activities, such as meditation as a strategy to enable their wellness. These examples reflect the interrelatedness of the four domains and underscore how an imbalance in one domain, may consequently coalesce into imbalances within the other domains.

The researcher explored other frameworks such as Maslow's hierarchy of needs and the health needs assessment framework and concluded that these frameworks were not applicable to the current study. Maslow's hierarchy of needs may have some advantages but it was oversimplified and suggested that once a person's physiological and safety needs are met, the need decreases. Thereafter the need for love and belonging and self-esteem increases. However, in life all needs are equally important and may not arise in a linear manner but more often will occur simultaneously. The framework does not make provision for individual needs but is based on the premise that all human beings will meet their needs as per the hierarchical structure of the framework (Wei and Ma 2022: 164; Trivedi and Mehta 2019: 40). Similarly, the "Health Needs Assessment Framework" does not advocate for the assessment of individual needs but rather focuses on the collective needs of a group of people or population (Martin and Cuddihy 2024:24). Hence the biopsychosocial-spiritual framework was considered most appropriate to guide an understanding of the effects of COVID-19 on healthcare workers and to develop the wellness program.

1.10.3. The biopsychosocial-spiritual framework within the context of the study

To ensure the wellness of healthcare workers during disasters such as pandemics, it is important to adopt a holistic approach, to assessing their needs. This involves recognizing the strengths available to healthcare workers within their homes and workplaces as well as tapping into and harnessing the strengths within these systems and reinforcing these resources. It is equally important to identify and acknowledge the potential threats and weaknesses that they may face in both their personal and professional settings. Understanding these gaps and planning targeted interventions to address them is crucial to maintaining their well-being during highly stressful times, such as the COVID-19 pandemic.

1.10.3.1 The biological dimension

Healthcare workers, involved in the care of COVID-19 patients, were at significant risk of contracting the virus themselves, as the virus was a highly contagious agent that mutated rapidly and had no known treatment at the onset of the pandemic (Zhao, Lybrand, Gilbert and Payne *et al.* 2022: 3). Healthcare workers varied in age, with some being younger and others middle-aged. In addition, many healthcare workers had pre-existing chronic illnesses, which made them more vulnerable to infection. The high environmental viral load in healthcare settings further increased their risk of exposure and infection. Al Maskari, Al Blushi, Khamis and Al Tai *et al.* (2021: 33) reported that 21% of Omani healthcare workers who were infected with COVID-19 had chronic diseases, which underscores the risks faced by these workers.

Moreover, healthcare workers were required to wear personal protective equipment (PPE), with their regular clothing, to protect themselves from cross-infection regardless of the weather conditions (Laxmidhar, Desai, Patel, and Laxmidhar 2023: 8). Despite the dire need for the use of PPE, it was fraught with challenges. Janson, Clift, and Dhokia (2021: 4) investigated the fit and comfort of PPE and found multiple negative issues related to it, such as discomfort and physical strain. Hence whilst the PPE, was essential to preventing infection, posed a threat to the physical wellness of healthcare workers,

thereby increasing their discomfort and impairing their ability to concentrate on their tasks (Park 2020: 176; Janson, Clift, and Dhokia 2021: 4; Galanis, Vraka, Fragkou and Bilali *et al.* 2021: 1309).

Hence the risk of infection and physical discomfort emerging from the use of PPE, which was experienced within the physical domain of a person's "Self", had the potential to create psychological distress. Healthcare workers therefore not only faced the physical burden of PPE but had to endure the mental strain of constant vigilance and concern about their health, as well as the emotional toll of working in an overwhelming and hazardous environment.

1.10.3.2 The psychological dimension

Many healthcare workers experienced significant psychological distress during the COVID-19 pandemic, with heightened levels of anxiety and fear of contracting the virus being common (Buselli, Baldanzi, Corsi and Chiumiento *et al.* 2020: 10; Amakiri, Chidimma, Chude and Oradiegwu *et al.* 2020: 5). The high-stress levels associated with their roles, also led to disturbances in their work relationships, exacerbating the psychological toll that they experienced (Buselli *et al.* 2020: 10). In a South African study, Lee, Wilson, Bernstein and Naicker *et al.* (2022b: 7) found that healthcare workers reported constant psychological strain, with many expressing feelings of unhappiness and depression due to the overwhelming demands of their work during the pandemic.

Psychological distress can be further aggravated by gaps or weaknesses in the social aspects of an individual's life, such as a lack of social support, financial strain, or exposure to discrimination (Lee *et al.* 2022b: 7). These sociological stressors can contribute to an increased sense of vulnerability and emotional strain, making it more difficult for healthcare workers to manage the pressures of their work. The studies cited above, highlighted the complex interplay of psychological and social elements, in the mental health of healthcare workers during crises like the COVID-19 pandemic.

1.10.3.3 The sociological dimension

The COVID-19 pandemic led to widespread restrictions globally and in South Africa, which disrupted the lives of the public and particularly that of healthcare workers. Healthcare workers were at high risk of contracting the virus due to their work environment, prompting some to move out of their homes to protect their families. In some cases, family members asked healthcare workers, not to return home after working with COVID-19 patients, which created further strained family relationships (Akintujoye 2020: 1; Moyo, Mavhandu-Mudzusi and Haruzivishe 2022: 6; Zhao, Shen, Shields, Wang, Wu, Yu; Li 2023: 47).

The closure of schools added to the stress experienced by parents, as children had to be home-schooled. Consequently, healthcare workers had to supervise their children's education, and cope with the demands of an increased work schedule. Many healthcare workers felt socially isolated as they were, unable to meet their family or friends or engage in social activities like dining out. However, they maintained communication with their loved ones and friends through digital means such as telephone calls, video chats, WhatsApp, Skype, Zoom, and Microsoft Teams (Hausl *et al.* 2020: 486; McIntosh, Bachmann, Siedner and Gareta *et al.* 2021: 2).

In South Africa, the government's implementation of the stringent level 5 lockdown in March 2020, brought about significant challenges, including financial strain on families who were no longer able to provide for their loved ones as, they had before (Rwafa-Ponela, Price, Nyatela and Nqakala *et al.* 2022: 2). In addition, the young children of healthcare workers' young children missed their parents, particularly their mothers who stayed away from home to protect the family from the virus (Mohammadi, Masoumi, Oshvandi and Borzou *et al.* 2022: 3).

These factors clearly disrupted the social well-being of healthcare workers, highlighting the negative impact of the pandemic on their wellness. The combined effects of social isolation disrupted family dynamics and other interpersonal relationships leaving those with financial stress, with little emotional support. This collectively impacted their mental

wellness. The broad social repercussions of the pandemic on healthcare workers, therefore underscored the importance of building social relationships and networks, to buffer mental distress emerging from these crises.

1.10.3.4 The spiritual dimension

Religiosity and spirituality, although discrete in nature, are still viewed as overlapping constructs within literature. Aspects of religion are therefore embedded in spirituality and often discussed together, due to their interconnectedness. During the COVID-19 pandemic, healthcare workers were confronted with the overwhelming number of gravely sick patients who were suffering and dying, the lack of a vaccine and protocols to manage critically ill patients and the delays in the development of a vaccine. This crisis led healthcare workers and the public to seek comfort and solace in their religious and spiritual systems, and by drawing on their spiritual beliefs and practices for comfort and support (Kowalczyk, Roszkowski, Montane and Pawliszak *et al.* 2020: 2672). Many turned to a Supreme Being or God for protection, praying for their safety, as well as for their families, colleagues, and patients. Regardless of their specific religious or spiritual beliefs, healthcare workers found solace in their individual faith and spiritual practices (Meybodi and Mohammadi 2020: 985; Gill, Chastney, Patel and Nyatanga *et al.* 2023: 6).

Research has shown that high levels of spirituality helped to strengthen healthcare workers and were associated with lower levels of anxiety, related to COVID-19 (Prazeres, Passos, Simoes, Simoes, Martins and Teixeira (2020: 7). This sense of spiritual strength provided them with greater hope during a time of unprecedented stress (de Diego-Cordero, Rey-Reyes, Vega-Escano and Lucchetti *et al.* 2023: 50). Thus, during the pandemic, religious faith and spiritual practices played a crucial role in helping healthcare workers cope with the immense stress they were facing.

Furthermore, Singh and Bhagwan (2020: 411) advocated for the integration of a biopsychosocial-spiritual framework within South African healthcare, particularly when addressing individuals adhering to African spirituality. Their research highlights the importance of comprehensive assessments that acknowledge and leverage the spiritual strengths inherent in this belief system (Singh and Bhagwan 2020: 411). The study

emphasized the efficacy of traditional healing methodologies, such as drumming, prayer, and rituals, and underscored the crucial role of traditional healers in the lives of many South Africans. Consequently, Singh and Bhagwan (2020: 411) argued for the recognition and respectful integration of these rituals and treatment interventions into holistic and culturally sensitive support strategies. This approach promotes a more comprehensive and effective model of care that respects the cultural and spiritual beliefs of the individual.

The biopsychosocial-spiritual model, which acknowledges the synchronous interaction between the physical, psychological, social and spiritual aspects of a person, was therefore appropriate as the guiding theoretical framework, of the study. It allowed for a holistic understanding of the needs of healthcare workers. The model enabled a deeper understanding of their multifaceted experiences, not only within diverse healthcare settings but within their family and social contexts. The literature reflected a gap in relation to programs aimed at addressing the holistic wellness of healthcare workers. Hence whilst many studies have explored specific aspects of healthcare workers' well-being, few have adopted a holistic approach to understanding how the pandemic affected the well-being of healthcare workers within the context of their physical, psychological, social and spiritual needs. This lends support for using the biopsychosocial-spiritual framework as a guiding framework, to develop holistic interventions to support the wellness of healthcare workers.

1.11 Organization of the thesis

The thesis is organized into six chapters, each addressing a key aspect of the study.

Chapter 1: Introduction

This chapter provided a context for the study by detailing the background to the study and by outlining both the global and South African responses to the COVID-19 pandemic, particularly efforts to "flatten the curve." The chapter also elucidated the research problem, aim, objectives, research questions, and significance of the study. Finally, it introduced the theoretical framework that underpinned the study.

Chapter 2: Literature Review

This chapter will provide an extensive review of existing literature on the experiences of healthcare workers during the COVID-19 pandemic. It will also examine the preparedness of healthcare institutions and workers to manage the pandemic, highlighting key gaps and challenges that emerged during this period.

Chapter 3: Research Methodology

In this chapter, the research methodology was detailed, explaining the research design, paradigm, and the population and sampling strategies used in the study. It further describes the data collection tools, the process followed, and the analysis methods. Measures taken to ensure the trustworthiness of the study are discussed, along with ethical considerations relevant to the research.

Chapter 4: Data Analysis

This chapter presented the findings from the data analyzed detailing the twelve themes and their respective sub-themes that emerged from the data collected from healthcare workers. These themes are discussed in relation to the research objectives and are supported by relevant literature which is presented holistically to provide a deeper understanding of the findings.

Chapter 5: Development of the wellness program

This chapter outlines the development of the wellness program that can be used for healthcare workers.

Chapter 6: The biopsychosocial wellness program

This chapter presents the newly developed wellness program that can be used for healthcare workers

Chapter 7: Conclusions and Recommendations

The final chapter summarizes the main findings in relation to the objectives of the study, the conclusions reached, and recommendations made. It also highlights the study's limitations and provides recommendations for future research based on the results.

1.12 Conclusion

Chapter one introduced the study by providing an overview of its background, the research problem, objectives, and research questions. It further outlined the significance of the study. The theoretical framework guiding the research was also introduced in this chapter. Chapter two will provide a comprehensive review of the literature linked to the objectives.

This chapter concludes with a quote from the late Archbishop Desmond Tutu, which highlights the importance of Ubuntu in South African culture. Ubuntu, translated states, “I am because we are”, which reflects the value of humanity and interconnectedness. This principle underscored compassion and sense of deep duty, which enabled the healthcare workers to serve others, despite the risks and challenges posed by the COVID-19 pandemic. This emphasis on shared humanity may be the reason that healthcare workers have been so committed to caring for others, even under the most strenuous and turbulent circumstances.

“Ubuntu is very difficult to render into a Western language. It speaks of the very essence of being human.... you are generous, you are hospitable, you are friendly and caring and compassionate. You share what you have. It is to say, 'My humanity is inextricably bound up in yours.' We belong in a bundle of life” (Archbishop Desmond Tutu).

CHAPTER 2

“A hero is someone who has given his or her life to something bigger than oneself”
(Joseph Campbell).

2. Literature review

2.1 Introduction

A literature review provides the researcher with in-depth insight into the research problem, by gathering current theoretical and scientific data on the phenomenon being investigated. It allows the researcher to learn from existing studies, generate new ideas, and evaluate the effectiveness of previous methodologies. Through this process, gaps in the literature can be identified, justifying the need for a study and guiding it towards addressing these gaps. A literature review also situates the research within a theoretical framework, demonstrating how the study will contribute to expanding the existing knowledge base. The literature review plays a crucial role in the formulation and refinement of effective research questions (Fouche, Strydom and Roestenburg 2022: 95; Polit and Beck 2021: 82; Gray, Grove and Sutherland 2017: 242; Yin 2016: 74; Leedy and Ormrod 2021: 82).

The literature review followed a systematic process and relevant quantitative and qualitative studies, both international and national, were included and updated as new research emerged. The search strategy involved a systematic exploration of relevant databases and online resources, employing key terms and phrases including "pandemic," "disaster," "COVID-19," and specific keywords pertaining to the "effects of COVID-19 on healthcare workers." This latter category encompassed the "physical, psychosocial, and spiritual effects of COVID-19" experienced by healthcare professionals. The search parameters were further broadened to include the "effects of COVID-19 on families of healthcare workers" and the "coping strategies adopted by healthcare workers" in response to the pandemic. The search covered databases such as Google Scholar, ResearchGate, PubMed Central, ScienceDirect, ScienceOpen, Medline, CINAHL, MedRxiv, and JSTOR, as well as sources from the South African National Department of Health, KwaZulu-Natal Department of Health, and relevant newspaper articles.

The literature review is structured according to the following sections: institutional readiness (2.2), perceptions and views of healthcare workers regarding the readiness of healthcare institutions (2.3), the effects of the COVID-19 pandemic on healthcare workers (2.4) and conclusion (2.5).

2.2 Institutional readiness for the COVID-19 pandemic

Global healthcare institutions had to prepare for COVID-19 surges by implementing systems to manage patients and reduce disease impact. This included addressing aspects related to the physical, psychological and social wellbeing of healthcare workers.

2.2.1 Physical infrastructure preparedness

Institutional readiness for COVID-19 involved various strategies to manage patient surges. Countries like China, Singapore, Taiwan, and the United States of America set up temporary COVID-19 tents outside healthcare facilities for screening, triage, and treatment (Huang, Zhao, Li and Chen *et al.* 2020: 711; Tung 2021: 6; Tsai, Chen, Chi and Yang *et al.* 2021: 3; Cunningham, Rappaport, Hodgson and Drechsel *et al.* 2022: 2). A hospital in Singapore also set up portable radiography equipment in the tent to prevent COVID-19 patients, spreading the virus within the hospital (Melissa, Ting, Manful and Li *et al.* 2022: 161).

Bangladesh, China, India and Indonesia also repurposed existing facilities that would serve as COVID-19 hospitals and modified their existing infrastructure, to serve as COVID-19 emergency and isolation units. This action mitigated the risk of cross infection in general and maternity wards as both COVID-19 and non-COVID-19 patients could be managed separately (Reza, Sultana and Khan 2020: 439; Li, Wang, Wang and Lu 2021: 998; Mahajan, Pednekar, Patil and Subramanyam *et al.* 2020b: 189; Asmaningrum, Ferguson, Ridla and Kurniawati 2022: 255).

China's rapid construction of temporary hospitals like Leishenshan and mobile Fangcang hospitals, aided by its resources and experience with Severe Acute Respiratory Syndrome (SARS), was in stark contrast to the limitations confronting resource-poor countries, where such large-scale projects were unfeasible (Cai, Chen, Xiao and Khor *et*

et al. 2021: 2; Luo, Liu, Li and Chena *et al.* 2020: 1; Li, Yuan, Heffernan and Zheng *et al.* 2020: 835; Shi, Li, Liu and Liu *et al.* 2022: 1). In America, healthcare institutions converted non-clinical areas into medical spaces, expanding bed capacity, to handle the surge in COVID-19 patients (Kerlin, Costa, Davis and Admon *et al.* 2021: 519)

Ghana and Kenya, expanded their infrastructure, converting wards into COVID-19 treatment areas for both adults and children. Kenya began building and equipping intensive care units at existing facilities, which they believed could be used during and beyond the pandemic (Sarkodie, Asiedu-Bekoe, Laryea and Ampofo *et al.* 2021: 44; Ogira, Bharali, Onyango and Mao *et al.* 2020: 12). South African healthcare institutions, like those in Ghana and Kenya, implemented similar models at two hospitals in the Western Cape and two in KwaZulu-Natal, to prevent infection spread (Sarkodie *et al.* 2021: 44; Ogira *et al.* 2020: 12; Furstenburg *et al.* 2020: 2; Parker *et al.* 2020: 2; Rangai, Ramkillawan and Smith 2022: 34).

In the Western Cape, a district hospital's emergency centre was modified for patient screening, and its counselling room was repurposed to manage patients under investigation (PUI). The outpatient department and other wards were redesigned to create separate isolation areas for adult and paediatric COVID-19 patients (Furstenberg *et al.* 2020: 4). At the Western Cape Provincial Hospital, a separate gate was designated for the safe transfer of COVID-19 patients to the isolation unit, and a ward was repurposed as a COVID-19 isolation area (Parker *et al.* 2020: 2). Similarly, in the uMgungundlovu Health District, in South Africa, a regional hospital converted a general ward into a dedicated COVID-19 isolation unit (Rangai, Ramkillawan and Smith 2022: 34). Furthermore, a tertiary healthcare institution, modified their Intensive Care Unit (ICU) to include a COVID-19 isolation unit for critically ill and ventilated patients. However, a South African study uncovered pervasive challenges linked to ICU capacity. It further found that while infrastructure changes were crucial and did occur, they could not fully address the overwhelming demand for ICU care (Rangai, Ramkillawan and Smith 2022: 37).

The literature reflects a critical gap in the monitoring and evaluation of these adaptations, with South Africa experiencing pervasive shortages within their Intensive Care Units

(ICUs). Hence despite infrastructure modifications, they were insufficient in meeting the scale of the crisis. This highlights the need for better preparedness and adaptability in healthcare infrastructure for future pandemics.

2.2.2 Human resources preparedness

COVID-19 units required well-trained and qualified staff, including doctors, nurses, and allied and ancillary personnel, to manage the pandemic effectively. Countries adopted various models to ensure healthcare institutions had an adequate number of suitable personnel to care for COVID-19 patients. However, these models shared similar core principles across, including the redeployment of existing healthcare workers, recruitment of new staff, and the use of volunteers.

Countries such as China, India, and Indonesia, focused on reallocating doctors and nurses from less-affected regions to areas of greatest need, while also recalling staff on leave and recruiting new personnel (Zhu, Liu, Wu and Loke *et al.* 2021: 2; Li, Cui, Efstathiou, Li and Guo 2022: 12; Mahajan *et al.* 2020b: 192; Shrestha and Kunwar 2020: 2; Coumare, Pawar, Manoharan and Pajanivel *et al.* 2021: 11; Asmaningrum *et al.* 2022: 256; Efendi, Aurizki, Auwalin and McKenna 2022: 1812; Mahendradhata, Andayani, Hasri and Arifi *et al.* 2021: 2). To strengthen the workforce new healthcare workers were also recruited into the system and those who were on leave were recalled to assist in the management of the pandemic. The rapid recruitment process for nurses resulted in institutions sometimes employing under qualified staff which included new graduates and generalists to strengthen the workforce (Mahajan *et al.* 2020b: 192; Shrestha and Kunwar 2020: 2; Coumare *et al.* 2021: 11; Asmaningrum *et al.* 2022: 256; Efendi *et al.* 2022: 1812; Mahendradhata *et al.* 2021: 2).

A review of the global literature emerging from data from fifty-three countries, found that most healthcare institutions relied on recruiting healthcare workers from within and from outside the healthcare sector who were then reallocated to work in priority COVID-19 areas (Cavalcante de Oliveira, Galante, Maia and Craveiro *et al.* 2023: 4; Stroth, Jahns, Bode and Stender *et al.* 2024: 1). Germany's approach to staffing differed slightly, from

China, India and Indonesia, as they utilized volunteers from the public, retired and non-practicing healthcare workers, and undergraduate students (Stroth *et al.* 2024: 6; Zhu *et al.* 2021: 2; Mahajan *et al.* 2020b: 192; Shrestha and Kunwar 2020: 2; Coumare *et al.* 2021: 11; Asmaningrum *et al.* 2022: 256; Efendi *et al.* 2022: 1812; Mahendradhata *et al.* 2021: 2). To further bridge the staffing gap, healthcare workers in several countries, worked overtime, cancelled leave, and extended their retirement. Task-shifting also allowed nurses and paramedics to take on roles traditionally performed by doctors (Cavalcante de Oliveira *et al.* 2023: 7; Stroth *et al.* 2024: 6).

In the South African context, human resource management was guided by directives from the National Department of Health, with strategies that mirrored those adopted in Germany (Furstenberg *et al.* 2020: 4; Rangai, Ramkillawan and Smith 2022: 34). These included redistributing staff from the operating theatres to intensive care units and recruiting additional contract workers. South African public healthcare workers did not receive clear incentives which highlighted a gap in workforce support. They also did not amend the job descriptions and scope of practice of nurses and paramedics, which would have allowed them the opportunity to task shift and perform duties that were normally performed by doctors. This may be viewed as a limitation in the country's approach to staffing. However, there may be several reasons that prevented the country from doing this. This included the government protecting healthcare workers and protecting the Department of Health from litigation, task shifting would have likely caused an additional burden for nurses and paramedics.

Recruitment incentives that were used to attract healthcare workers, included, financial incentives, such as pay increases and allowances that equated to their salaries. Health personnel were also rewarded with additional leave and given free protein snacks and food, when on duty (Mahajan *et al.* 2020b: 192; Shrestha and Kunwar 2020: 2; Coumare *et al.* 2021: 11; Asmaningrum *et al.* 2022: 256; Efendi *et al.* 2022: 1812; Mahendradhata *et al.* 2021: 2; Cavalcante de Oliveira *et al.* 2023: 7; Stroth *et al.* 2024: 6). At the onset of the pandemic there was no known mention of incentives, in the effort to recruit South African healthcare workers.

Numerous studies highlighted the importance of continuous education and training for healthcare workers on World Health Organization (WHO) guidelines, for infection prevention, clinical management, and the use of personal protective equipment (Li *et al.* 2021: 999; Mahajan *et al.* 2020b: 192; Shrestha and Kunwar, 2020: 2; Coumare *et al.* 2021: 11; Asmaningrum *et al.* 2022: 256; Efendi *et al.* 2022: 1812; Mahendradhata *et al.* 2021: 2). In order to support staff, management provided motivational talks and training on clinical guidelines, management of patients, the use of PPE, infection control procedures and implemented work schedules that allowed healthcare workers time away from the COVID-19 patients, thus preventing their over-exposure to the virus (Mahajan *et al.* 2020b: 192; Shrestha and Kunwar, 2020: 2; Coumare *et al.* 2021: 11; Asmaningrum *et al.* 2022: 256; Efendi *et al.* 2022: 1812; Mahendradhata *et al.* 2021: 2; Cavalcante de Oliveira *et al.* 2023: 7; Stroth *et al.* 2024: 6).

As new scientific information emerged, it was shared with healthcare workers through videoconferencing, webinars, and social media groups (Mahajan *et al.* 2020b: 192). In South Africa, healthcare workers received specialized training in disaster response, COVID-19 management, and intensive care management of patients (Bongongo, Govender, Nzaumvila and Maphash 2022: 3; Jordan, Iwu-Jaja, Mokoka and Kearns *et al.* 2022: 379). A COVID-19 training program for intensive care nurses was developed and delivered via Zoom with videos and assessments. This strategy, which was used for training healthcare personnel, proved to be effective in reaching a large number of nurses (Jordan *et al.* 2022: 38).

Tomlin, Dalglish-Warburton, and Lamph (2020: 6) emphasized the need for healthcare organizations to implement psychosocial support strategies for employees following traumatic events. These strategies should include regular communication of evidence-based information, compassionate leadership, participative decision-making, and peer support initiatives. Additionally, support should encourage healthy habits such as proper diet, rest, and physical activity, while avoiding substance abuse. Psychosocial support was also provided through hotlines (Tomlin, Dalglish-Warburton and Lamph 2020: 6; Geoffroy, Goanvic, Sabbagh and Richoux *et al.* 2020: 5). In France, healthcare workers also received timely support through hotlines and referrals to certified psychologists and

psychiatrists (Geoffroy *et al.* 2020: 5). This was further supported by writers such as Otu, Charles and Yaya (2020: 4) who called for the use of hotlines and online channels for counselling staff.

Gandhi, Sahu, Govindan and Nattala *et al.* (2021: 5) argued that self-efficacy, optimism, and resilience were key indicators of psychological preparedness and are positively correlated with wellness. They suggested that training for nurses and nursing students should include these facets, so as to enhance the psychological preparedness of healthcare workers (Gandhi *et al.* 2021: 8). However, there is a gap in the literature regarding how healthcare institutions provided psychosocial support to personnel, particularly during the early phases of the pandemic.

Overall, the literature suggested that many countries adopted similar human resource management models, such as redeploying existing staff members from other areas to manage the pandemic. This however was not a totally effective model, as they were still required to recruit additional doctors and nurses to provide services during the pandemic. Many global healthcare institutions had existing chronic staff shortages, and the pandemic exacerbated this problem. The pandemic presented an unprecedented calamity and resulted in large surges of patients presenting at healthcare institutions during the various COVID-19 waves, thereby intensifying the existing chronic staffing issues. Many of the patients were also critically ill and required specialized care. However, hospitals were not adequately resourced with well trained personnel to meet all these demands. In addition, healthcare workers had to go on sick leave as they were also getting infected with COVID-19 thereby adding to the shortages in staff (Arabi, Myatra and Lobo 2022: 638; Lasater, Aiken, Sloane and French *et al.* 2021: 639; Rucker *et al.* 2021: 7). These challenges such as staff shortages, the need for rapid recruitment, and gaps in psychosocial support highlighted critical areas for improvement in the preparedness for future pandemics.

2.2.3 Equipment and other resource preparation for the pandemic

Healthcare institutions had to ensure that they had adequate resources, including ventilators, PPE, and standard operating procedures (SOPs), to manage the pandemic. Planning was ongoing, as the demands to protect workers and care for patients were unprecedented. The disease caused many patients to experience severe respiratory distress which subsequently required ventilation.

It was crucial for countries to ensure an adequate supply of this life-saving equipment (Branson, Dichter, Feldman and Devereaux *et al.* 2021: 634). The need for ventilators (non-invasive and mechanical) and personal protective equipment such as N95 masks outweighed the global stockpile (Bhaskar, Tan, Bogers and Minssen *et al.* 2020: 1 and Han 2021: 363). To mitigate these challenges, countries had to adapt their manufacturing and procurement processes and explore innovative strategies to ensure the availability of much-needed resources.

Australia, Canada, China, India, the United Kingdom (UK) and the United States of America (USA), called on ventilator manufacturers to accelerate the production of these products (Bhaskar *et al.* 2020: 1; Han 2021: 363). Non-ventilator manufacturers, including automotive and engineering firms, were also redirected to manufacture ventilators and personal protective equipment (PPE). Additionally, ventilators were reassigned from operating rooms, to accommodate the needs of COVID-19 patients. Rapid development and implementation of guidelines concerning patient case management and the use of PPE were undertaken (Holley, Coatsworth and Lipman 2020: 3; Bhaskar *et al.* 2020: 2; Iyengar, Bahl, Vaishya and Vaish 2020: 501; Dar, Swamy, Gavin and Theodore 2021: 411; Unruh, Allin, Marchildon and Burke *et al.* 2024: 431; Han 2021: 370; Dube, Li, Selviaridis and Jahre 2022: 5; Branson *et al.* 2021: 634; Ranney, Griffeth and Jha 2020: e41; Wells, Fitzpatrick, Sah and Shoukat *et al.* 2020: 1124).

The United States provided support to various nations by exporting excess ventilators to low and middle-income countries (LMICs) that lacked the capability to produce their own. Beneficiary nations included Mexico, Honduras, Ecuador, Indonesia, El Salvador,

Vietnam, Japan, and several Caribbean nations. Additionally, surplus ventilators were donated to Russia. Meanwhile, China exported 950 ventilators to Spain and supplied ventilators along with other critical supplies to 25 additional countries (Branson *et al.* 2021: 634 and Han 2021: 373).

To address the resource deficit, India's Health Ministry announced the importation of 49,000 ventilators to aid in the management of COVID-19 (Aggarwal and Trikha 2020: 735; Mahajan *et al.* 2020: 192). In Africa, both Kenya and Nigeria acquired additional ventilators and received contributions from the United States and the World Health Organization. Furthermore, Nigeria issued case management guidelines and allocated funds for the procurement of personal protective equipment (Oliwa, Mazhar, Serem and Khalid *et al.* 2023: 11; Okeke, Uzochukwu, Onyedinma and Onwujekwe 2022: 79).

Kenya however, struggled with the implementation of policies due to resource shortages (Oliwa *et al.* 2023: 16). Both India and South Africa mobilized intensive care unit beds and redirected equipment from non-urgent medical areas to those dealing with COVID-19 (Mahajan *et al.* 2020b: 192; Furstenberg *et al.* 2020: 4; Rangai, Ramkillawan and Smith 2022: 37). As the global demand intensified, South Africa faced serious difficulties in securing ventilators, prompting the launch of the "National Ventilation Project" funded by the Solidarity Fund, which produced low-cost ventilators. The USA also donated 1000 ventilators through the United States Agency, for International Development (USAID). South Africa further implemented measures to manufacture its own PPE (Mantena, Rogo and Burke 2020: 1379; Dzogbewu, Afrifa, Amoah and Fianko *et al.* 2022: 4; Solidarity fund 2022: 3; USAID 2020: 1).

These studies highlighted the differences between developed and developing countries. South Africa, although classified as a developing country, still had the ability to release funds and the intellectual capacity amongst its academics and engineers to build capacity within the country and manufacture some of its own ventilators and PPE (Mantena, Rogo and Burke 2020: 1379; Dzogbewu *et al.* 2022: 4; Solidarity Fund 2022: 3). However, countries who had surplus ventilators, did assist the more vulnerable countries.

Australia, Indonesia and Japan developed and implemented protocols and guidelines that ensured the standardization of practice (Bhaskar *et al.* 2020: 6; Asmaningrum *et al.* 2022: 256; Ishizaki, Jindai, Saito and Oshitani *et al.* 2023: 1291). They included triage guidelines for COVID-19 patients in intensive care units, protocols prohibiting visitors for patients in the hospital, the safe transfer of patients in the hospital and the mandatory use of PPE by healthcare workers. Although protocols and guidelines were available, they had to be frequently changed due to the changing needs of the patients and the progress of the pandemic (Bhaskar *et al.* 2020: 6; Asmaningrum *et al.* 2022: 256; Ishizaki *et al.* 2023: 1291).

These findings emerged from healthcare workers, who were involved in the planning and preparation phases, as well as papers written by academics who were not operational at grassroots level. Participants in a study by Asmaningrum *et al.* (2022: 256), who were directly involved with the planning phase and the data collected, however, may have provided some biased results, as they may not have been able to see or admit to shortfalls during their planning and implementation. It was important to gain an understanding of healthcare institutional readiness as perceived by healthcare workers, as they were at the forefront of the pandemic. This is discussed next.

2.3 Perceptions and views of healthcare workers regarding the readiness of healthcare institutions

Meghani and Lalani (2020: 199) argued that pandemics expose the vulnerabilities of a country's healthcare system, as well as its capacity to implement measures that safeguard healthcare, the economy, and society. However, they also highlighted that pandemics offer an opportunity for countries to learn, improve, and better prepare for future health crises. At the time of the current study, there were few studies that specifically examined the preparedness of healthcare institutions for the COVID-19 pandemic, suggesting a gap in the literature with regards to this critical aspect of pandemic response.

2.3.1 Infrastructural readiness as perceived by healthcare workers

Infrastructural preparedness for the COVID-19 pandemic was a complex, ongoing process rather than a one-time activity. As the pandemic progressed, it became evident that initial plans were insufficient, leading many countries to broaden the scope of their infrastructural strategies. A significant challenge was the rapid need for ICU beds, which required space modifications within healthcare facilities.

At the onset of the pandemic, China experienced some challenges, which were attributed to the failure of the country to promptly respond to the pandemic. This resulted in inadequate hospital beds and ill-prepared community hospitals, hence the increase in COVID-19 cases (Sun, Xie, Yu and Jiang *et al.* 2021b: 2; Liu, Luo, Haase and Guo *et al.* 2020: e790). A rapid increase in the number of COVID-19 patients, warranted the repurposing of wards into isolation units that did not meet the recommended specifications. Furthermore, a group of researchers developed a model to estimate the bed shortages in Wuhan during the early phase of the pandemic. They explored the number of mild, severe and critically ill patients against the number of deaths reported. The researchers concluded that there was a daily shortage of at least 100 ICU beds, which implies that it may have contributed to the increased number of deaths (Zhuang, Cao, Zhao and Han *et al.* 2021: 6). China was, however, able to alleviate these challenges by building Fangcang hospitals (temporary hospitals), that met the criteria for isolation (Li *et al.* 2021: 998).

Japan's preparation for the COVID-19 pandemic also appeared inadequate, particularly in terms of physical infrastructure, as highlighted within several studies (Ide, Asami, Suda and Yoshimi *et al.* 2021: 2; Nakahara, Inada, Ichikawa and Tomio 2022: 3; Saito, Ozaki, Tanimoto and Takita *et al.* 2023: 3). A cross-sectional study at two Yokohama hospitals, following a large COVID-19 outbreak aboard the *Diamond Princess Cruise* ship, found that healthcare workers believed that Japan was unprepared for a surge in COVID-19 patients. There was a lack of planning for ward availability, hospital closures, and staff quarantine (Ide *et al.* 2021: 2). Although Japan's situation was unique due to the unexpected influx of COVID-positive tourists, the rapid spread of the virus in Asia should

have prompted earlier preparations to manage the crisis. Researchers concurred that Japan experienced problems with the availability of physical infrastructure at hospitals and clinics. Japan's healthcare system was primarily privatized which meant that there were limited public healthcare facilities.

It was therefore not unexpected that during the various COVID-19 surges, these healthcare services were severely strained (Nakahara *et al.* 2022: 3; Saito *et al.* 2023: 3; Ide *et al.* 2021: 2). Most public hospitals were small to medium in size; hence they lacked bed capacity. Furthermore, a lack of synchronized efforts and policies between healthcare providers, public agencies and local governments hindered the effective utilization of the available resources (Nakahara *et al.* 2022: 3; Saito *et al.* 2023: 3). Nakahara *et al.* (2022: 4) and Tagashira, Takamatsu, Hasegawa and Uenoyama *et al.* (2020: 3) concurred that the physical layout of the healthcare institutions did not comply with the recommended infection control measures.

Bangladesh and India followed a similar model to Japan as they also had healthcare systems that included both public and private health sectors (Islam, Talukder, Siddiqui and Islam 2020: 394; Ahmed, Musarrat and Kabir 2023: 12; Kapoor, Kaur, Saeed and Shannawaz *et al.* 2023: 2; Malik 2022: 46; Tabish 2021: 78; Nakahara *et al.* 2022: 3). A greater portion of the secondary and tertiary healthcare services that were concentrated in urban areas were privately owned. Many patients who required secondary and tertiary level healthcare such as intensive care services could not access them, as they did not have the financial resources to do so. Hospitals situated in remote areas did not have ICU services, hence critically ill patients living a distance away were deprived of ICU services (Islam *et al.* 2020: 394; Ahmed, Musarrat and Kabir 2023: 12; Kapoor *et al.* 2023: 2; Malik 2022: 46; Tabish 2021: 78).

Hospitals in India were forced to turn away patients who needed ICU care and oxygen. The chronic lack of ICU space and other resources, as well as the fragility of the infrastructure of the public healthcare institutions, culminated in the death of many patients (Kapoor *et al.* 2023: 2; Malik 2022: 46; Tabish 2021: 78). Private healthcare institutions in Bangladesh, refused to admit COVID-19 patients which exacerbated the challenges experienced by public healthcare institutions. This suggested that there were

no service level agreements for pandemic management, between the public and private sector (Islam *et al.* 2020: 394; Ahmed, Musarrat and Kabir 2023: 12). These studies highlighted the gap in resources that existed between public and private healthcare services. It also emphasized the geographical challenges that confronted the healthcare systems as patients were unable to access much needed care.

Both Egyptian and Iranian healthcare workers further reported that their hospitals were ill-prepared in terms of physical infrastructure. Ventilation systems were inadequate, and hospitals lacked the capacity to expand in response to a biological disaster like COVID-19 (Alhadi, Khder, Ali and Taha *et al.* 2023: 3; Aminizadeh *et al.* 2020: 2). Isolation facilities, negative pressure rooms, laboratory services, patient decontamination areas, and separate resuscitation spaces in emergency departments were insufficient, which was unlike those in wealthier countries (Alhadi *et al.* 2023: 3; Aminizadeh *et al.* 2020: 2).

In contrast, Italy adopted an epidemiological model that allowed them to allocate ICU beds to areas where they were most needed. However, even with increased bed capacity, the demand far outstripped availability (Bosa, Castelli, Castelli and Ciani *et al.* 2022: 5; Giancotti 2021: 6). Sweden's healthcare workers also faced infrastructural issues, with crowded, chaotic conditions in ICU units, which highlighted the strain on physical resources during the crisis (Andersson, Nordin and Engstrom 2022: 4). In addition, a study conducted in Spain found that healthcare professionals working in small hospitals experienced challenges, with their infrastructural readiness as they felt that the space was inadequate and lacked ICU bed space (Alquezar-Arbe, Pinera, Jacob and Martin *et al.* 2020: 324; Otero-Garca, Mateos, Esperato and Llubes-Arria *et al.* 2023: 4).

An online survey with open and closed ended questions was conducted in the Western Cape, of South Africa, across seven urban and rural areas. The study found that only 30.1% of primary healthcare nurses, felt that the infrastructure was adequate for triaging, testing, and isolating COVID-19 patients. This suggested that primary healthcare clinics were not suitable for managing patients during a pandemic (Crowley, Kitshoff, de Lange-Cloete and Baron *et al.* 2021: 7). Participants also reported issues with patient flow, citing small spaces and poor ventilation (Crowley *et al.* 2021: 5). Crowley *et al.* (2021: 6)

reported a lack of statistically significant differences between rural and urban healthcare facilities. This finding, however, may be attributed to methodological limitations, specifically the reliance on an online survey for data collection.

In a proactive response to manage the surge of COVID-19 patients, the Gauteng Department of Health, of South Africa and the private sector formed a partnership (Alavinejad, Mellado, Asgary and Mbada *et al.* 2022: 16). This collaboration resulted in over 70% of patients who required high-care and ICU services being treated in private hospitals. The arrangement was significant in easing the pressure on public healthcare facilities. These findings, however, may have varied across different waves and provinces (Alavinejad *et al.* 2022: 16).

Despite the scarcity of literature on infrastructural readiness, it became evident that considerable gaps existed in this domain, with numerous countries encountering substantial challenges. The severity of the ongoing global pandemic necessitated the treatment of a considerable number of patients in intensive care units, yet the demand for intensive care unit beds frequently exceeded their capacity.

2.3.2 Availability of equipment and personal protective equipment

The global healthcare response to the COVID-19 pandemic was significantly impacted by shortages in life-saving equipment, particularly ventilators, and personal protective equipment (PPE). These shortages were not confined to any specific region but were a widespread issue, affecting both high-and low-income countries. Healthcare institutions were faced with the dual challenge of ensuring that patients received necessary care, while simultaneously safeguarding the health of their frontline workers.

Shaikh (2021: 1) argued that the COVID-19 pandemic highlighted the vulnerability of developing countries to disasters and their lack of preparedness, with regards to equipment and PPE particularly. This issue was observed across Asia and the Middle East, in countries such as China, India, Iran and Pakistan (Cheung, Fong and Bressington 2020: 1; Romate and Rajkumar 2022: 12; Esmaeilian, Mohajeri, Hoseinyazdi and Ghorbani *et al.* 2024: 5; Mohammadi, Farjam, Gholampour and Sohrabpour *et al.* 2021a:

7; Meghani and Lalani 2020: 198). Healthcare workers in these countries expressed alarm, at the lack of institutional preparedness, especially the shortage of ventilators and PPE, which left them feeling helpless (Romate and Rajkumar 2022: 12). In Iran, 23.3% of healthcare workers reported insufficient PPE, and this shortage persisted through the fifth wave of the pandemic (Khazaee-Pool, Moradi, Pashaei and Ponnet 2023:6). Iranian nurses, like their Swedish counterparts, also noted that their PPE was ill-fitting, of poor-quality, and prone to tearing. They also felt that it was unfairly distributed, with doctors receiving better quality gear (Moradi, Baghaei, Hosseingholipour and Mollazadeh 2021: 1164; Melander 2021: 110).

Healthcare workers in Bangladesh and Iran reported a discrepancy between government announcements about PPE availability and the reality on the ground. Despite claims that PPE was being supplied, many workers found the provisions to be inadequate, of poor quality, or unavailable, which prompted them to purchase their own PPE (Razu, Yasmin, Arif and Islam *et al.* 2021: 2; Mohammadi *et al.* 2021a: 7; Mohammadi, Tehraninesha, Bijani and Khaleghi 2021b:5; Karimi, Fereidouni, Behnammoghadam and Alimohammadi *et al.* 2020: 1275). These healthcare workers expressed fear of becoming infected and transmitting the virus to others (Razu *et al.* 2021: 2; Mohammadi *et al.* 2021a: 7; Mohammadi *et al.* 2021b: 5; Karimi *et al.* 2020: 1275). The lack of adequate preparation by health authorities in the Middle East and Asia raised concerns, as these deficiencies increased the risk of infection among healthcare workers and jeopardized the overall healthcare service delivery.

A cross-sectional study comparing healthcare workers from high-income foreign countries (Canada, UK, USA), high-income Arabic countries (Saudi Arabia, UAE, Qatar), and Egypt (a lower-middle-income country), found that participants from wealthier nations, were more confident about their PPE and its proper use (Alhadi *et al.* 2023: 3). In contrast, Egyptian healthcare workers reported higher COVID-19 infection rates, which they attributed to inadequate PPE and insufficient training, particularly in the use of FFP2 (Filtering Face Piece) and FFP3 masks. These masks were more commonly used in high-income Arabic countries, than in Egypt (Alhadi *et al.* 2023: 3). The study highlighted a significant imbalance in the availability and quality of PPE between high-income and

lower-middle-income countries, which may have contributed to higher infection rates among Egyptian healthcare workers.

Australian researchers noted that COVID-19 positive patients were being admitted to hospitals for severe pneumonia, with hundreds more requiring mechanical ventilation in intensive care units due to life-threatening symptoms (Alharbi, Jackson and Usher 2020: 2762; Litton, Bucci, Chavan and Ho *et al.* 2020: 463). Litton *et al.* (2020: 463) projected that during a surge, the demand for intensive care would triple existing capacity, prompting healthcare workers in Australia to express concerns over insufficient ventilators (Alharbi, Jackson and Usher 2020: 2762; Bhaskar *et al.* 2020: 2). Additionally, the rising number of infectious patients in isolation units, led to an increase in high-risk aerosolizing procedures, further straining the availability of personal protective equipment (PPE), which healthcare workers found to be inadequate (Alharbi, Jackson and Usher 2020: 2762; Bhaskar *et al.* 2020: 2). The distress experienced by American healthcare workers was further fuelled by the national shortage of PPE and inconsistencies in testing for COVID-19 (Shechter, Diaz, Moise and Anstey *et al.* 2020: 3).

Europe also faced significant shortages in ventilators and PPE during the pandemic. An insufficient supply of ventilators in Sweden, resulted in healthcare workers using older models that they were not familiar with (Andersson, Nordin and Engstrom 2022: 4). Additionally, Swedish nurses struggled with inadequate and poor-quality PPE (Melanders 2021: 11). The high incidence of COVID-19 infection amongst healthcare workers in Spain, i.e. three out of every ten healthcare workers, was attributed to a lack of proper PPE, improper use, and the reuse of equipment, not intended for multiple uses (Hernandez 2020, cited in Rodriguez and Sanchez 2020: 196). However, once precautionary measures were implemented and PPE use was better managed, infections among healthcare workers decreased (Rodriguez and Sanchez 2020: 196; Murphy, Barnard, Drucker and Yang *et al.* 2020: 712). Spanish nurses also reported heightened anxiety due to poor management of PPE that was received through donations (Fernandez-Castillo, Gonzalez-Caro and Porcel-Galvez 2021: 403).

In Africa, Nigeria and Cameroon reported that there was a shortage of PPE in these countries. The increased demand for this lifesaving PPE in Cameroon resulted in businesses implementing price hikes, by 100%. The shortage of PPE in Cameroon was coupled with a corresponding increase in hospital acquired COVID-19 infection amongst healthcare workers. This suggested that Cameroon needed to strengthen and sustain its provision of PPE for healthcare workers (Haque, Abubakar, Ogunleye and Sani *et al.* 2021: 7; Cameroon Situation Report 2020, cited in Nicholas, Vanessa, Destin and Vanessa *et al.* 2021: 52). Disruptions in the global supply chain also resulted in South Africa facing severe challenges with acute shortages of PPE, such as face shields, goggles, heavy-duty aprons, gloves, and N95 respirators (Mbunge 2020: 1813; Lalla-Edward, Mosam, Hove and Erzse *et al.* 2022: 8; Makhado, Ntuli, Zungu and Thovhogi *et al.* 2024; 8).

The global shortage of ventilators and PPE highlighted the fragility of healthcare systems, in the face of a pandemic. While some high-income countries were better equipped to manage these shortages, developing countries, particularly in the Middle East, Asia, and Africa, faced severe challenges. The lack of preparedness not only placed patients at risk, but also endangered healthcare workers, who were often forced to work under unsafe conditions. These shortages were exacerbated by corruption, logistical failures, and inefficiencies in the distribution of resources. Robust planning and international cooperation are therefore essential to ensure that healthcare systems are adequately equipped to handle future pandemics

2.3.3 Human resources: availability and preparation

To manage a pandemic effectively, healthcare institutions needed to ensure they were adequately staffed with the right categories of healthcare workers, who possessed the correct qualifications, skill set, and experience. Given that healthcare workers were facing a pandemic for the first time, training was crucial. Training for biological disasters is typically considered one of the most important factors in preparing healthcare institutions to manage a pandemic effectively (Aminizadeh *et al.* 2020: 2).

2.3.3.1 Availability of human resources

As the pandemic intensified, many people became critically ill and required hospitalization and ventilation, which put a strain on human resources.

Countries such as Austria, Bangladesh, India, Iran, Pakistan, Spain, Sweden, the UK and USA all faced human resource challenges (Jeleff, Traugott, Jirovsky-Platter and Jordakieva *et al.* 2024: 4; Razu *et al.* 2021: 4; Spoorthy, Pratapa and Mahant 2020: 310; Karimi *et al.* 2020: 1275; Rana, Mukhtar and Mukhtar 2020; Rodriguez and Sanchez 2020: 198; Rosenback, Lantz and Rosen 2022: 9; Walton, Murray and Christian 2020: 241; Shechter *et al.* 2020: 3). These shortages led to negative consequences, such as the need for healthcare workers to increase their overtime. Furthermore, newly qualified Spanish doctors and nurses lacked the necessary experience and skills to work in high-risk environments (Rodriguez and Sanchez 2020: 198). Experienced nurses felt that the newly recruited nurses had not acquired adequate knowledge to be assigned to intensive care units during the pandemic. They either took over the duties of the new nurses or left them to struggle, sometimes sending them in “without ammunition”, i.e. the skill, knowledge, experience and maturity to work under such extreme circumstances (Rodriguez and Sanchez 2020: 198; Fernandez-Castillo, Gonzalez-Caro and Porcel-Galvez 2021: 402).

Cameroon also experienced human resource challenges and further lacked the services of specialized clinicians, especially in referral hospitals. Hence this type of specialized support was not available to the other categories of healthcare workers (Ngeh and Kuaban 2020: 1). South Africa's health system, which was already facing challenges before the pandemic, was further overwhelmed. Existing issues like the brain drain, lack of healthcare training, financial constraints, and frozen posts worsened the situation (Chen 2010, cited in Mbunge 2020: 1812). Healthcare workers were severely overstretched due to the growing number of COVID-19 cases (Lalla-Edward *et al.* 2022: 5; Makhado *et al.* 2024: 8). To address the shortage, South African health authorities hired contract staff and enlisted general practitioners from private practice and non-governmental organizations (Lalla-Edward *et al.* 2022: 8).

The COVID-19 pandemic stressed the importance of robust healthcare workforce planning to be adequately prepared for such disasters. It did not suffice to ensure sufficient numbers of healthcare workers, but was equally important to ensure that they were adequately trained, supported, and resourced to function effectively under pressure.

2.3.3.2 Preparation of human resources for the pandemic

Healthcare workers in India and Iran felt that the education and training they received were superficial and ineffective. They were concerned about improper use of personal protective equipment (PPE), as they did not have the opportunity to practice during training sessions (Mohindra, Ravaki, Suri and Bhalla *et al.* 2020: 1; Aminizadeh *et al.* 2020: 2). Although hospitals offered training programs, these had little impact on human resource preparedness. Training needed to be current and relevant to the biological nature of the virus (Aminizadeh *et al.* 2020: 4). In contrast, healthcare workers in more affluent countries such as Canada, Qatar, Saudi Arabia, the United Kingdom, United States and United Arab Emirates received more effective training and were better informed regarding issues at their hospitals, compared to those in Egypt (Alhadi *et al.* 2023: 3).

Tsiouris, Hartsough, Poimbouef and Raether *et al.* (2022: 6) conducted a quantitative study involving healthcare participants from Angola, Burundi, Eswatini, Kenya, Lesotho, Malawi, Mozambique, Rwanda, Sierra Leone, South Sudan, and Zambia to assess the effectiveness of training that healthcare professionals received. Standardized training modules were developed, and participants took a pre-test before the training occurred. The content was delivered through various teaching modalities, followed by a post-test. The participants' post-test scores increased by 15%, which suggested that the training was effective as it improved the knowledge of the healthcare workers. Overall, 87% of participants were "extremely satisfied" or "satisfied" with the training, and 90% felt that it was "extremely relevant" or "relevant" to their current practice (Tsiouris *et al.* 2022: 6).

Two studies in Ghana highlighted that healthcare workers received effective training on COVID-19-related topics such as infection control and case management (Boadu, Boadu, Mensah and Adzakpah *et al.* 2024: 4; Iddrisu, Pwavra, Ohene and Ani-Amponsah

et al. 2021: 4). Ghana took a proactive approach by implementing "train the trainer" courses, in as early as December 2019, which helped healthcare workers feel confident in facing the pandemic. Many participants had prior experience working during the Cholera and Ebola epidemics, which likely boosted their confidence (Boadu *et al.* 2024: 4; Iddrisu *et al.* 2021: 4). Similarly, in Kenya, 70% of healthcare workers across 47 counties reported receiving relevant COVID-19 training (Abdulle, Masika and Oyugi 2022: 5). However, training was more concentrated in urban (64%) than rural areas (54%) areas. Healthcare professionals, specifically doctors, underwent more extensive training, with 70% of them receiving additional education compared to 64% of other healthcare workers (Abdulle, Masika and Oyugi 2022: 5).

In South Africa, the situation was more challenging. Healthcare workers were often thrust into new roles without receiving the necessary in-service training on COVID-19 protocols, emergency preparedness, and the evolving nature of the disease. While some training initiatives were implemented, the urgency of the pandemic and the overwhelming demand for healthcare services meant that many healthcare workers were forced to learn on the job, without adequate support or guidance (Lalla-Edward *et al.* 2022: 8). A study conducted in Tshwane, South Africa found that 36% of healthcare workers had received training in disaster management and 43.7% received formal training on COVID-19 management. The researchers concluded that this level of training was good as compared to other countries (Bongongo; Govender, Nzaumvila, Maphasha 2022: 5). Professional nurses working at private healthcare facilities, who were redeployed from the general wards to work in the intensive care units with critically ill patients on ventilators were not prepared for or trained for this type of work. This increased the workload on the ICU nurses (Molala and Downing 2024: 7). South African public and private healthcare institutions seemed to be experiencing similar challenges with regards to the preparedness of healthcare workers.

The gap in training was particularly concerning given the rapid spread of the virus, the high demand for healthcare services, and the complexity of managing COVID-19 patients. Without adequate training and preparation, healthcare workers were at greater risk of exposure to the virus, which not only affected their health but also undermined the overall

ability of healthcare systems to respond effectively. The varied experiences of healthcare workers across different countries highlighted the importance of continuous, relevant training in pandemic preparedness.

Effective training should not only provide healthcare workers with the technical knowledge and skills required to manage the virus but should also address the psychological impact of working in high-stress, high-risk environments. Training should be updated regularly to reflect the latest scientific evidence and public health guidelines, ensuring that healthcare workers are equipped to handle evolving challenges. Additionally, training programs should be accessible to all healthcare workers, regardless of their location, position or category within the healthcare system. Implementing such measures will ensure that no one was left behind in the preparation process.

- **Psychological preparation of human resources**

Leung, Lim, Lim and Lee *et al.* (2024: 12), illuminated a critical vulnerability within the Singaporean healthcare system during the initial stages of the COVID-19 pandemic: a profound lack of psychological preparedness among healthcare workers. Their research reveals that the initial news of the outbreak in China triggered significant worry and fear among Singaporean healthcare professionals, primarily due to the absence of a vaccine and fear of infection. However, this anxiety escalated dramatically into shock and heightened distress upon the actual admission of COVID-19 patients to their hospitals (Leung *et al.* 2024:12). Building upon the importance of adequate preparation, Afulani, O. Gyamerah, Nutor and Laar *et al.* (2021: 14) demonstrated a direct correlation between psychological readiness and the well-being of healthcare workers. Their findings reveal that a lack of psychological preparation among healthcare personnel significantly elevates their fear of infection. This heightened fear, in turn, precipitates increased levels of stress and, ultimately, burnout (Afulani *et al.* 2021: 14).

This acute psychological upheaval accentuated a fundamental deficiency in the psychological training and support, which left healthcare workers ill-equipped to

cope with the intense emotional and psychological demands of a pandemic situation. This evidence further underscored the critical need for comprehensive psychological support and training initiatives to safeguard the mental health and resilience of healthcare professionals, particularly in demanding and high-risk environments. The neglect of this aspect of preparedness, not only impacts the individual well-being of healthcare workers but also has significant implications for the overall resilience and effectiveness of the healthcare system during times of crisis.

2.3.4 Views on the availability and implementation of policies, protocols and guidelines

Healthcare workers, regardless of experience, require protocols and guidelines to standardize practice, guide their actions, and prevent wasted time and avoidable errors.

Healthcare workers from Austria, Bangladesh, India, Iran, Italy, Pakistan, Sweden, the UK and USA, concurred that the absence of clear and timely policies and guidelines, such as treatment and safety protocols for healthcare workers, added to the pressure they were experiencing (Jeleff *et al.* 2022: 1; Razu *et al.* 2021: 4; Spoorthy, Pratapa and Mahant 2020: 3; Karimi *et al.* 2020: 1275; Capano 2020: 328; Kumar, Saghir, Ali and Yasin *et al.* 2021: e61; Ludvigsson 2020: 2467; Walton, Murray and Christian 2020: 241; Shechter *et al.* 2020: 3). Saddik, Elbarazi, Tamsah and Sharif Askari *et al.* (2021: 9) emphasized that there was a need for updated policies, particularly regarding infection prevention to guide healthcare workers to function effectively. Healthcare workers in wealthier countries such as Canada, Qatar, Saudi Arabia, the United Arab Emirates, U.K and the USA, felt significantly better prepared regarding infection prevention and control protocols and access to policies compared to their counterparts in Egypt (Alhadi *et al.* 2023: 3). In contrast, healthcare workers in Pakistan reported that their institutions were ill-prepared in terms of disaster management, with inadequate support, response, and recovery (Meghani and Lalani 2020: 199). Indian healthcare workers, meanwhile, found the development of standard operating procedures, for managing COVID-19 patients

challenging, particularly during day and night shifts, which contributed to their increased stress (Krishnan, Thasneem and Roshni 2020: 3870).

Emergency medical service personnel highlighted that their work processes differed from other healthcare workers, emphasizing the urgent need for policymakers to develop standardized, comprehensive protocols with clear instructions for handling COVID-19 patients. These protocols needed to be tailored to their specific duties (Mohammadi *et al.* 2021b: 2). Additionally, other researchers recommended programs to raise public awareness, the development and implementation of guidelines for managing COVID-19 patients, and the provision of training on infection control measures (Mekonen, Shetie, Muluneh 2020: 1363). These recommendations were made early in the pandemic although studies published after 2020, alluded to there being gaps in the timely provision of relevant and clear guidelines.

The South African government developed and implemented workplace guidelines to enforce physical distancing, mandatory mask usage, and full PPE for healthcare workers caring for COVID-19 patients or those under investigation. This was aimed at protecting healthcare workers and preventing virus transmission within healthcare settings (Dramowski, Zunza, Dube and Parker *et al.* 2020: 2). Molala and Downing (2024: 7), however, found that professional nurses in private healthcare institutions were dissatisfied with frequent changes to COVID-19 guidelines and protocols. Additionally, Makhado *et al.* (2024: 1) noted that healthcare workers in public healthcare facilities, were disillusioned with "poor policies" from their employers, particularly the lack of allowances or compensation for staff who contracted COVID-19.

In summary, while some countries, particularly those with more robust healthcare systems, were able to provide their healthcare workers with the training and resources needed to manage the pandemic effectively, others, especially in lower-and middle-income regions, faced significant challenges. These disparities underscored the need for a global approach to pandemic preparedness, one that includes not only adequate resource allocation but also a focus on training, mental health support, and equitable access to essential information. Policies, protocols and guidelines in the workplace is

necessary to standardize and guide practice, especially when faced with new phenomena. The lessons learned from the COVID-19 pandemic should guide future efforts to strengthen healthcare systems and ensure that all healthcare workers are adequately prepared for any public health emergency.

2.4 The effects of the COVID-19 pandemic on healthcare workers

The biopsychosocial-spiritual framework, elucidated in Chapter one, provides a holistic approach to understanding a person's well-being. This framework was adopted to guide the research questions, and the literature review to get a richer insight into how COVID-19 affected the biopsychosocial and spiritual aspects of health care workers lives. The literature presents an exposition and critical analysis of available data on the impact of COVID-19 on healthcare workers.

Initially, many studies on COVID-19 were conducted in China, where the virus originated. As the virus spread globally, more studies emerged across Asia, Europe, North and South America, Africa, and other regions. Early research was predominantly quantitative in nature and often conducted through web-based surveys, social media platforms, and similar methods. Over time, qualitative studies emerged, with most interviews taking place via online modalities.

2.4.1 Physical effects of COVID-19 on healthcare workers

Caring for COVID-19 patients had several potential negative physical effects on healthcare workers, as their work processes changed, and their workloads increased. The following review of the literature focuses on the physical impact of COVID-19 on healthcare workers.

2.4.1.1 Physical effects caused by prolonged use of personal protective equipment

Most of the negative physical effects experienced by healthcare workers during the COVID-19 pandemic were related to the prolonged use of PPE. The physical effects were grouped into various sub-categories:

2.4.1.1.1 Headaches, fatigue, sweating, breathlessness and damaged skin

Headaches, fatigue, sweating, breathlessness and skin related damage were frequently experienced by healthcare workers. Healthcare workers globally appeared to be working in thick PPE for varied durations that ranged from two and a half to three hours (Turkey). In other instances, they worked from four to six hours (China) and also long stretches of eight to ten hours (Pakistan) at a time, in PPE (Kackin, Ciydem, Aci and Kutlu 2020: 6; Talaee, Varahram, Jamaati and Salimi *et al.* 2020: 532; Xing, Xu, Sun and Wang *et al.* 2021: 663; Hamid 2016, cited in Meghani and Lalani 2020: 198). Healthcare workers in China, India, Iran, Italy, Turkey and the UK found it challenging to perform tasks such as setting up intravenous infusions, administering intravenous medication, collecting laboratory samples from patients' such as disinfection of faeces, providing basic nursing care and providing psychological support to patients, whilst in PPE. They shared that they felt uncomfortable, experienced physical pain; exhaustion and heightened levels of fatigue (Xing *et al.* 2021: 663; Chakma, Thomas, Kholi and Moral *et al.* 2021: 642; Moradi *et al.* 2021: 1164; Kreh, Brancaleoni, Magalini and Chieffo *et al.* 2021: 8; Kackin *et al.* 2020: 6; Montgomery, Humphreys, McCulloch and Docherty *et al.* 2021: 8).

There were concerns that the fatigue resulting from working for prolonged periods in PPE could lead to costly mistakes such as incorrectly using PPE, thus increasing the risk of infection (Rodriguez and Sanchez 2020: 198). Shen, Zou, Zhong and Yan *et al.* (2020: 1) confirmed that approximately 55% of intensive care nurses experienced fatigue which was due to the intensity and increased workload in the ICU, whilst in PPE. In addition, extended working hours and the increased intensity of work caused excessive sweating, which drenched their bodies and the excessive fluid loss contributed to dehydration, making healthcare workers feel drained and exhausted (Chakma *et al.* 2021: 642; Romate and Rajkumar 2022: 7; Han, Duan, Zhao and Zhu *et al.* 2022: 5; Kackin *et al.* 2020: 6).

The participants shared that the masks and respirators also made it difficult to breathe, hence they felt breathless and experienced feelings of suffocation. Being in PPE likened them to being in a plastic bag (Chakma *et al.* 2021: 642; Han *et al.* 2022: 5). Chatterjee, Chakrabarty, Banerjee and Grover *et al.* (2021: 11) however reported that the more

mature cohort of healthcare workers were more prone to fatigue. Torossian and Jacelon (2021: 133) also argued that a more mature cohort of individuals were at greater risk of fatigue due to comorbidities, depression, anxiety, decreased physical activity and sleep and socioeconomic status. This cohort of healthcare workers however, were more experienced in specialized nursing care such as ICU nursing and would have therefore carried the burden of the additional work and responsibility. Goggles and masks also caused pressure injuries to the face, facial pain, marks, bruises, rash and dry skin (Han *et al.* 2022: 1; Shaukat, Ali, and Razzak 2020: 7; Hoernke, Djellouli, Andrews and Lewis-Jackson *et al.* 2021: 8).

A quantitative study that included healthcare workers from India and Singapore further found that they experienced physical symptoms such as PPE associated headaches (31.9%), throat pain (33.6%) and lethargy (26.6%) (Chew, Lee, Tan and Jing *et al.* 2020: 562). These physical symptoms placed the HCWs, in a huge predicament regarding whether they should have applied for medical leave of absence; or whether they should have continued to work with their colleagues, as they were unsure about whether these symptoms were related to PPE use or COVID-19 infection. Han *et al.* (2022: 5) reported from a meta-analysis of global studies that nurses working in PPE in the ICU experienced PPE induced headaches.

2.4.1.1.2 Inability to meet physiological and hygiene needs

Once healthcare workers donned PPE and entered patient areas, they had to remain there for the prescribed number of hours and could not remove any item of the PPE as this would have compromised their safety.

Several studies conducted in China, India, Iran, South Africa and Sweden, found that PPE caused healthcare workers to experience decreased appetite or indigestion, thereby preventing them from eating and drinking. These irregular eating habits led to health problems such as headaches and dehydration which negatively impacted the work process (Shen *et al.* 2020: 1; Chakma *et al.* 2021: 642; Moradi *et al.* 2021: 1164; Molala and Downing 2024: 7; Melander 2021: 11). Montgomery *et al.* (2021: 8) added that their English respondents also experienced weight loss while some had gained weight.

Moreover, PPE created hygiene related problems for females during their menstrual cycles. One participant shared that she developed a urinary tract infection and constipation due to her not being able to use toilet facilities regularly (Romate and Rajkumar 2022; 7; Melander 2021: 11; Moradi *et al.* 2021: 1164; Han *et al.* 2022: 5). The studies highlighted the physiological challenges and discomfort that healthcare workers experienced, whilst working in PPE for prolonged periods of time. They were forced to endure these negative effects as they were working in high-risk areas and needed to protect themselves from getting infected with the virus.

2.4.1.1.3 Sleep disturbances

A cycle of negative physical effects also resulted in healthcare workers experiencing sleep disturbances. Numerous studies conducted in China, India, Israel, Italy, Nigeria, South Africa and the USA found that healthcare workers experienced significant sleep disturbances during the COVID-19 pandemic (Que, Shi, Deng and Liu *et al.* 2020: 3; Menon, Yadav, Aggarwal and Singh *et al.* 2022:1; Cleper, Hertz-Palmor, Mosheva and Hasson-Ohayon *et al.* 2022: 6; Di Filippo, Attanasi, Dodi and Porreca *et al.* 2021: 1; Olagunju, Bioku, Olagunju and Sarimiye *et al.* 2021: 23; Molala and Downing 2024: 7; Shechter *et al.* 2020: 3). There were no significant differences in the sleep disturbances amongst Chinese (45%) and Indian (49.7%) healthcare workers (Shen *et al.* 2020: 1; Chatterjee *et al.* 2021: 9).

A study conducted with American healthcare workers (n=657) found that 66% of the sample, experienced some degree of sleep disturbance, with 26% of the participants experiencing severe to very severe sleep disturbances and 40% experiencing moderate sleep disturbances (Pittsburgh Sleep Quality Index and Insomnia Severity Index) (Shechter *et al.* 2020: 3). Nurses or advanced practice providers experienced the worst sleep disturbances amongst all groupings of healthcare workers. The role of advanced nurse practitioners involved taking responsibility for planning and executing patient care. Therefore, one could have anticipated that these nurses who carried such a high level of responsibility would be the ones to experience higher stress levels and consequently experienced the “worst sleep disturbance” (Shechter *et al.* 2020: 3). In contrast, studies in China found that their participants had experienced lower levels of insomnia (28.7%;

34%; 32%) (Que *et al.* 2020: 3; Lai, Ma, Wang and Cai *et al.* 2020:8; and Sun *et al.* 2021b: 10). The higher levels of sleep disturbances amongst the American cohort may possibly be due to them having less experience in caring for patients with infectious diseases, as opposed to their counterparts in China.

Contrary to the findings made by Shen *et al.* (2020: 1) and Chatterjee *et al.* (2021: 9), where healthcare workers had relatively increased levels of sleep disturbance, another study that included healthcare workers from India and Singapore found that insomnia was experienced by fewer participants (21%) (Chew *et al.* 2020: 562). Participants, from India and Singapore, included doctors, nurses, allied healthcare workers (pharmacists, physiotherapists, and occupational therapists), technicians, administrators, and clerical staff and maintenance workers. The lower level of sleep disturbances however may have been due to the diverse sample. They were not all directly involved in patient care, hence their experiences differed resulting in fewer participants experiencing sleep disturbances.

Another multi-national study that included participants from Asia (47.60%), North America (18.7%), Central and South America (17.9%), Europe (13.9%) and other regions (1.90%), also found that approximately 30% of healthcare workers had experienced insomnia (Bhargava, Sarkar and Kroumpouzou 2020: 3). The sleep disturbances evident within this multi-national sample was significantly lower, than a Mexican sample which experienced a high level of insomnia (77.8%) (Bhargava, Sarkar and Kroumpouzou 2020: 3; Rojas, Torres, Ornelas and Rodriguez- de-Ita 2022: 5). This may have been attributed to the fact that the Mexican sample were all female, and hence the various roles that females play in the work environment, coupled with child rearing and care of the family and home may have caused them to have greater sleep disturbances. The vulnerability of women in the workplace was supported by Uddin (2021: 17), who argued that female employees still face challenges in maintaining a work life balance, as some of them are still bound by the traditional roles that women play in the home such as household chores, child rearing and other family responsibilities. In addition, many women have full time jobs, hence there is often an overlap of work-family roles. Other factors that contributed to sleep disturbances included increased screen time, decreased physical activity, an altered daily routine and having to live in quarantine centres away from home. Smoking

also seemed to have made participants more vulnerable to insomnia and stress which consequently exacerbated their insomnia (Rojas *et al.* 2022: 5; Chatterjee *et al.* 2021: 9).

These studies confirmed that much of the global health workforce had experienced some degree of sleep disturbances, which was caused by different factors that warranted attention. Inevitably this lack of sleep could contribute to other bio-psycho-social related problems, which warranted intervention to ensure the wellness of the health care workers during this time of stress.

2.4.1.1.4 Overtime, overwork and working long hours in high-risk environments

Due to a lack of human resources many countries requested that healthcare workers work overtime. This resulted in changes to their normal duty schedules, long working hours and overwork. The disease progression also resulted in many patients becoming critically ill, needing more intense care and many requiring ventilations. Collectively these factors increased the workload of healthcare practitioners.

Studies conducted in Austria, Bangladesh, China, India, Pakistan, South Africa, Spain, Sweden and Zambia, found that healthcare workers were affected by physical risk factors which included long working hours, working in high risk departments, working overtime and generally through being overworked (Hoedl, Bauer and Eglseer 2021: 95; Razu *et al.* 2021: 3; Xie, Liu, Jiang and Manandhar *et al.* 2021: 1; Chakma *et al.* 2021: 641; Sandesh, Shahid, Dev and Mandhan *et al.* 2020: 3; Hoshela and Shezi 2023: 53; Fernandez-Castillo, Gonzalez-Caro and Porcel-Galvez 2021: 401; Hernandez, Soderstrom, Rudman and Dahlgren 2024:7; Mukwasa, Mutemwa, Zambwe and Nkhama *et al.* 2021: 10). The study that emerged from Pakistan found that 64.2% of their healthcare workers reported an increased workload (Sandesh *et al.* 2020: 3). This increased workload justified the need for healthcare workers to work long hours and overtime. In another study in China, 41% of the participants had reported working more than five days per week (Xie *et al.* 2021: 1). Working prolonged hours to manage an increased workload with the same number of personnel, inadvertently resulted in their being less time to rest, which consequently placed these healthcare workers at a higher risk of exhaustion and other health related issues.

Chakma *et al.* (2021: 641), also found that an increased workload had made Indian paramedics more exhausted, which led to anger, as they were dealing with the public who did not understand the situation of the healthcare workers. This was evident even amongst Bangladeshi doctors and nurses who endured an increased workload, having to work extremely long shifts. A shortage of nurses resulted in nurses working 16-17-hour shifts per day (Razu *et al.* 2021: 3). There was also a reduced number of nurses, which meant that the existing nurses had to work long shifts to compensate for the lack of human resources (Moradi *et al.* 2021: 1164).

Extremely long shifts, further meant that healthcare professionals only had seven hours within which to go home, carry out their household chores, rest and return to work the next day (Razu *et al.* 2021: 3). It was, therefore, evident that healthcare workers were not having adequate rest. Many younger participants shared that they were assigned a much higher workload than their colleagues. The researchers concluded that one possible reason for this, was that the younger cohort of participants were allocated to work in areas that were more severely affected by the pandemic. This excessive workload however increased mental stress amongst the participants (Razu *et al.* 2021: 3). These studies demonstrated that the physical impact of working during the pandemic, had a greater effect on the emotions and psychological well-being of healthcare workers.

A limited number of nurses were allocated to work in the Spanish isolation intensive care units and as the number of infectious cases increased, so did the workload of these nurses (Fernandez-Castillo, Gonzalez-Caro and Porcel-Galvez 2021: 401). The nurses had to remain in these clinical practice areas for longer and had to carry out more functions than doctors did. A nurse stated that 90% of the work was carried out by them, they did not have any previous experience with this type of care and described this work experience as “brutal” (Fernandez-Castillo, Gonzalez-Caro and Porcel-Galvez 2021: 401). Molala and Downing (2024: 7) also found that staffing issues at private healthcare facilities, had compelled ICU nurses to work longer shifts and some even worked ten consecutive days. At times they also found themselves nursing three critically ill patients during a shift. This however is not the norm in intensive care nursing, considering the high mental and physical demands placed on nurses whilst executing patient care.

Other huge studies such as the one across 10 states in India (N-967), found that health care workers were expected to carry out a multitude of functions, whilst caring for COVID-19 patients (Menon *et al.* 2022: 1). These functions included managing patients who were in isolation (57.9%), caring for patients with symptoms (58%), working in intensive care units (58.3%), as well as contact tracing (60.1%), screening (59.9%) and transporting COVID-19 patients. In addition, about 5% felt overextended, as they were overworked with the many tasks that they had to perform (Menon *et al.* 2022: 1).

The review of literature reflected the huge physical impact of the pandemic on the physical health and wellness of healthcare workers. As the pandemic evolved, the need for more holistic strategies related to the holistic care and support for these workers became evident. The working conditions of healthcare workers, the trajectory of the virus, and the extent of human suffering and death, birthed a pandemic of mental health distress which warranted interventions that could help them heal and recover.

2.4.2 Psychological impact of COVID-19 on healthcare workers

As reflected in the biopsychosocial and spiritual model, underpinning this study, the physiological and psychological effects of COVID-19 on healthcare workers were inextricably interlinked. The studies that follow provide a detailed expose of the psychological impact of COVID-19 on healthcare workers. Issues of heightened fear, anxiety and anger experienced by the health care workers are discussed in the sub-sections that follow.

2.4.2.1 Heightened fear and anxiety

The literature that follows focuses on studies that documented the fear and anxiety amongst the healthcare workers. Rodriguez and Sanchez (2020: 195) argued that pandemics can create one of the most “primitive answers at a psychological level”, which is “fear”. Humans will react to real or imagined threats to the physical, psychological and socio-economic self with fear (Rodriguez and Sanchez 2020: 195). Thereafter, fear stimulates other psychological effects and emotions. Healthcare workers in Wuhan were the first health professionals globally to encounter the COVID-19 pandemic, hence multiple studies emerged from China. The healthcare workers described the working

conditions as “more difficult and extreme than they could ever have imagined” and alluded to “suffering psychologically” (Que *et al.* 2020: 3; Lai *et al.* 2020:8; Sun, Wang, Song and Wu *et al.* 2021a: 10; Zeng and Zhen 2020, cited in Du, Dong, Wang and Yuan *et al.* 2020: 144; Huang and Zhao 2020: 5; Xing *et al.* 2021: 657; Shen *et al.* 2020: 1; Xie *et al.* 2021: 5; Tong *et al.* 2022: 5).

Many researchers concluded that the healthcare workers, who were working in the epicentres, such as the Provinces of Hubei and Wuhan and those who had direct contact with COVID-19 positive patients and patients under investigation (PUI), were susceptible to increased levels of anxiety (Liu, Yang, Zhang and Xu *et al.* 2020a: 3; Wu, Zhang, Wang and Zhang *et al.* 2020b: 6; Lu, Wang, Lin and Li Li 2020: 4). This was because healthcare workers in these clinical practice areas were seeing an increased number of COVID-19 positive patients and had witnessed a daily increase in the number of deaths, which made them more vulnerable to fear and anxiety (Wu *et al.* 2020b: 6; Liu *et al.* 2020a: 7). Chinese healthcare workers were anxious, worried and fearful for themselves and for their family members becoming infected with COVID-19 (Wu *et al.* 2020b: 6; Liu *et al.* 2020a: 7; Du *et al.* 2020: 145).

Three studies conducted independently of each other in China, also found heightened levels of anxiety amongst healthcare workers (45.4%; 44.6%; 37%) (Que *et al.* 2020: 3; Lai *et al.* 2020:8; Sun *et al.* 2021a: 10). All three studies applied the “Seven-Item Generalized Anxiety Disorder Scale (GAD-7) to measure anxiety. Xie *et al.* (2021: 1) concluded that the psychological impact, was considerably higher amongst the frontline medical staff (23.8%), as compared to the general medical staff (17. 2%). In yet another study, in China, it was found that a sample of medical personnel (n=2042) and administrative staff (n=257), had experienced mild to severe fear, (70.6%; 58.4%) (Numeric Rating Scale-NRS) and mild to severe anxiety, respectively (25.5%; 20%) (Hamilton Anxiety Scale-HAMA) (Lu *et al.* 2020: 2). The researchers concluded that the frontline medical staff who had direct contact with COVID-19 patients, in high-risk clinical practice areas such as respiratory units, emergency departments, intensive care units and infectious disease departments, experienced greater levels of fear and anxiety. Administrative staff and general medical staff, who did not have direct contact with

infected patients, had a lower risk of infection, hence their fear and anxiety levels were lower (Xie *et al.* 2021: 5; Lu *et al.* 2020: 2).

Drawing upon empirical evidence, Maciaszek, Ciulkowicz, Misiak and Szczesniak *et al.* (2020: 8), investigated anxiety levels across various professional groups during a period of heightened stress. Their findings, indicated that medical professionals exhibited significantly elevated anxiety levels compared to their counterparts in other sectors. This disparity, may be directly attributable to the inherent high-risk nature of medical work, characterized by constant exposure to critical situations and profound responsibility for patient well-being and that of self. This further suggested a potential correlation between occupational risk and heightened psychological distress. A later study by Tong *et al.* (2022: 5) found that only 15.7% (Hospital Anxiety and Depression Scale) of healthcare workers had reported heightened levels of anxiety. These lower levels can be attributed to the fact that as the pandemic progressed, many systems began to be operationalized, and healthcare workers became more accustomed to working under stressful conditions.

Alnazly, Khraisat, Al-Bashaireh and Bryant (2021: 2), measured the level of fear of 365 healthcare workers, in Jordan, by applying a rating scale of 7-35 (Fear of COVID-19 Scale, the Depression, Anxiety, Stress Scale). The higher the score the greater the fear experienced. The participants' total mean score for fear of COVID-19 was 23.4 (SD=6.85), which was above the mid-point of 21. This indicated that the participants experienced significantly high levels of fear, with 60% of the respondents reporting extremely severe anxiety (Alnazly *et al.* 2021: 12). The larger number of female and younger participants in the sample, seemed to have influenced the high levels of fear and anxiety. It would appear that these demographic variables had made these two groups more vulnerable to the mental health distress, emerging from the pandemic. One Spanish healthcare professional shared that when she went home, she felt tired, because her "soul hurt". Other participants in this study reported that their excessive levels of fear impacted their ability to sleep (Fernandez-Castillo, Gonzalez-Caro and Porcel-Galvez 2021: 399).

Other studies in India, Pakistan and South Africa similarly found that healthcare workers, were most severely affected by symptoms of anxiety (Chatterjee *et al.* 2021: 1; Sandesh *et al.* 2020: 3; De Kock, Latham, Leslie and Grindle *et al.* 2021: 15). Anxiety levels were

however considerably higher amongst the younger cohorts of participants, female nurses and personnel with a higher educational level such as doctors and frontline healthcare professionals. Many studies, however, found that nurses followed by doctors experienced the most anxiety as compared to other categories of healthcare practitioners (Huang and Zhao 2020: 5; Xing *et al.* 2021: 657; Shen *et al.* 2020: 1; Sun *et al.* 2021a: 10; Xie *et al.* 2021: 5; Meghani and Lalani 2020: 198; Chatterjee *et al.* 2021: 1; Saddik *et al.* 2021:5; Shreffler, Petrey and Huecker 2020: 1063; Robertson, Maposa, Somaroo and Johnson 2020: 1010; De Kock *et al.* 2021: 15).

Researchers found that healthcare professionals working in a tertiary cardiac unit experienced moderate to severe anxiety (20.1%) (Depression, Anxiety and Stress - 21 scale - DASS-21) during the COVID-19 pandemic (Kumar *et al.* 2021: e59). In another study, it was found that healthcare workers in COVID-19 isolation wards, experienced moderate to severe anxiety (85.7%) (Depression Anxiety Stress Scale-21-DASS-21-self-report tool). They feared getting infected (80.3%), and experienced fear of infecting their family members (89.2%) (Sandesh *et al.* 2020: 3). The differences in these levels of anxiety, suggest that those in high-risk environments and who had direct contact of caring for COVID-19 patients, were more seriously affected than their co-workers who did not have these experiences. Inevitably their close contact with their patients daily, also increased their fears of self-infection.

These findings suggest the need for greater mental health support for younger healthcare workers, female nurses and doctors who appeared to have been most affected. The need for greater support amongst nurses was further evidenced in the following two studies. Schneider, Talamonti, Gibson and Forshaw (2021: 3) and Lai *et al.* (2020: 8), reported that married female nurses working at tertiary healthcare institutions were more adversely affected, than other categories of healthcare workers. In another study, female healthcare workers were found to be at a greater risk of anxiety than males (OR=2.68 [1.75, 4.12]) (Boucher, Haight, Leger and Deslauriers *et al.* 2023: 823).

Collectively these studies suggest that working in continuous close proximity to patients in high-risk environments, performing high-risk procedures and working long shifts may have predisposed healthcare professionals to experiencing greater levels of anxiety.

Moreover, the constant exposure to suffering and death may also have provoked greater mental health distress which supports the need for targeted wellness interventions for this group during and post the pandemic. Whilst other categories of healthcare workers were not constantly at the patients' bedside, it still does not mean that they were not affected.

The multiple roles of females such as caring for and ensuring the safety of their spouses, and parents, taking care of household responsibilities and rearing their children may be linked to them experiencing greater anxiety than their male counterparts. Healthcare workers in tertiary and secondary healthcare institutions would have been more exposed to more critically ill patients, who were mechanically ventilated in intensive care units, and faced increased deaths thereby resulting in higher levels of anxiety. This notion was supported by a study in Portugal, where researchers found that healthcare workers, working directly with COVID-19 patients, had increased levels of anxiety (49%) (Depression Anxiety and Stress Scale) (Duarte, Pinho, Teixeira and Martins *et al.* 2022: 6).

Other studies found that young novice nurses working in the ICU environment, lacked experience which made them more vulnerable to psychological distress. Nurses who had not worked in ICU situations under normal conditions were redeployed to work in extremely stressful situations, specifically in the ICU during crises (Meghani and Lalani 2020: 198). The increased levels of anxiety amongst these young healthcare workers could be attributed to them having insufficient experience to work under pandemic circumstances. These findings were significant as they reflected that nurses and doctors who were required to perform high-risk procedures on infected patients, were more vulnerable to heightened levels of psychological distress, as they were at greater risk of self-infection.

Other studies reflected the distress of nurses, with Shen *et al.* (2020: 1) reporting that 85 of the Chinese intensive care nurses, who were surveyed during the early stages of the COVID-19 pandemic, experienced intense psychological distress. Nursing critically ill patients who were not surviving ventilation resulted in 28% of the nurses feeling nervous, whilst 26% cried freely. Han *et al.* (2022: 5) supported this saying that the nurses in the ICU were presenting with fear, worry and nervousness. Given that trained and

experienced intensive care nurses were presenting with psychological distress, it was not unexpected, that the novice and inexperienced nurses working in ICUs, would be more severely affected. Intensive care nursing is highly specialized and requires training and experience. Newly qualified nurses with limited experience in the nursing profession, were allocated to work in a highly specialized and demanding environment. These intensive care units were characterized by immense human suffering and death. This undeniably led to increased mental health distress.

Another factor fuelling the psychological distress amongst healthcare workers, was the huge numbers of their colleagues becoming infected and dying. During the first year of the COVID-19 pandemic, Pakistan reported that they had 85 264 confirmed COVID-19 cases and a death toll of 1 770. Of these 440 healthcare workers, were infected and eight lost their lives to this virus (Meghani and Lalani 2020: 196). An additional study conducted in Uttar Pradesh found that healthcare workers experienced mild (44.64%), to moderate (25.64%) and severe (30.36%) psychological distress (Impact of Events Scale-Revised-IES-R). What was interesting in this study was that the presence of pre-existing comorbidities (8.44%) seemed to have exacerbated their levels of psychological distress (Vaibhav, Priya and Gupta 2020: 4784).

The influence of the physical with the psychological, as reflected within the holistic model of this study, is reflected within these findings. Fears of having a comorbidity while working in high-risk clinical environments made such workers more aware of their vulnerability to both infection and death. At the onset of the pandemic there was an increased death rate amongst those with comorbidities, hence the psychological distress of the healthcare workers was understandable. Duarte *et al.* (2022: 6) who conducted a cross-sectional study in Portugal, confirmed this saying that healthcare workers living with existing health problems, had a 71% chance of increased anxiety (Depression, Anxiety and Stress Scale).

Chew *et al.* (2020: 563) and Chatterjee *et al.* (2021: 9) further reported that the fear of being a COVID-19 carrier and transmitting the virus to their peers and family members, was another possible reason for the psychological distress, experienced by healthcare workers. Other factors contributing to fear was uncovered in a qualitative study in

Bangladesh. Researchers found that many participants, even though were qualified and supposed to be psychologically prepared for any medical emergency, were fearful of going to work and of getting infected with the COVID-19 virus (Razu *et al.* 2021: 1). The participants openly admitted to experiencing fear of death, fear of infecting their families, with single parents experiencing fear of what would happen to their children should they die. Nurses also felt unappreciated, and one participant shared that doctors get all the recognition (Razu *et al.* 2021: 3). Given the rampant spread of COVID-19 and the escalating number of deaths, even the most qualified and experienced healthcare workers, experienced vulnerability and a lack of preparedness which further supports the need for a holistic programs of wellness interventions to support their recovery.

In addition to the nurses and doctors, other health care workers also experienced mental health distress. Maguire, Phelps and Maniscalco (2020, cited in Amiry and Maguire 2021: 407) described the huge role played by emergency medical services, in disaster operations, as they are the first responders to biological and all other disasters. They were also, globally, the first responders during the COVID-19 pandemic. Amiry and Maguire (2021: 412) found that during the pandemic, emergency medical service calls were largely in relation to COVID-19 cases, especially in the areas that were hardest hit by the pandemic. Two Iranian studies found that COVID-19 had also exposed the emergency medical technicians (EMTs), to significant levels of psychological strain. They experienced increased anxiety as they were challenged with regards to managing these patients, as handling COVID-19 patients differed from their normal patient protocols (Parvaresh- Masoud, Imanipour and Cheraghi 2021: 1116; Mohammadi *et al.* 2021b: 5). They feared becoming infected and infecting their loved ones, very similarly to the doctors and nurses reviewed in some of the aforementioned studies. Their fears were exacerbated by the limited resources available to them for their protection and that they were the first responders, who met the infected patients in uncontrolled community settings (Mohammadi *et al.* 2021b: 2).

The increased number of deaths amongst patients was found to be a significant factor in exacerbating the fear amongst nurses (Karimi *et al.* 2020: 1271). Many participants reported experiencing the physiological symptoms of anxiety, which included their whole

body shaking and sweating, preventing them from working optimally. This also stemmed from having to endure watching patients becoming progressively sick with COVID-19, watch their suffering and then their ultimate demise. Losing many patients that were still very young, deepened their psychological distress. Moreover, the fact that many patients had to relinquish visits from family members due to COVID-19 protocols and pass away without seeing their loved ones, left many healthcare workers depressed. Karimi *et al.* (2020: 1274) found that nurses were experiencing a multitude of psycho-somatic symptoms, due to the intensity of their clinical experiences with patients.

This was supported in findings from other studies, such as the one in Turkey. Ten nurses who had directly cared for COVID-19 patients, reported experiencing sadness, fear, panic and anxiety due to the high morbidity, mortality and unpredictable risk of the pandemic (Kackin *et al.* 2020: 1). Some of the new practices, such as sealing of the bodies of the dead were distressing and “shocking to the nurses”. One nurse who rigorously practised sanitizing and disinfecting, her hands, reported that she increased her personal sanitizing protocols even more (Kackin *et al.* 2020: 6).

In other studies, in Austria and Italy, thirteen expert healthcare workers (psychologists, intensive care physicians and a head nurse) shared that their colleagues, felt frustrated and powerless during the COVID-19 crisis (Kreh *et al.* 2021: 10). Doctors, in particular experienced silent reactions or paralysis of thought, whilst nurses reacted with rage. Some healthcare workers also reacted with high levels of dissociation. The stressors experienced by healthcare workers included having to assume new roles, cope with a lack of social interaction, the use of PPE and the challenges associated with it (Kreh *et al.* 2021: 10).

Given the new restrictions enforced within the hospital milieu, healthcare workers had to facilitate contact between patients and loved ones. Their constant provisioning of psychosocial support to their patients who were dying alone, triggered not only a deep sense of fear and anxiety but also created huge levels of sadness, heartbreak and burn out amongst them (Kreh *et al.* 2021: 10; Montgomery *et al.* 2021: 8).

Within the African landscape of literature, the picture did not differ significantly in terms of findings made abroad. Much of the research appears to have been concentrated in Ethiopia, where healthcare workers were found to be presenting with acute anxiety (Olashore, Akanni, Fela-Thomas and Khutsafalo 2021: 95). A cross-sectional study in Ghana found somewhat lower levels of anxiety (27.8%) (Depression, Anxiety and Stress Scale-21-DASS-21) and a moderate level of fear (40%) (Fear of COVID-19 scale) (Ofori, Osarfo, Agbeno and Manu *et al.* 2021: 4). These lower levels were attributed to the fact that Ghana had not experienced the impact of the pandemic as severely as other countries. The researchers further reported that Ghanaians are very religious people, which may have buffered them from the stressors of the pandemic (Ofori *et al.* 2021: 4). This supports the need for the inclusion of spiritually based activities, as part of a holistic approach to supporting the wellness of health care workers.

The high levels of anxiety (69.6%; 64.7%) (Depression Anxiety and Stress Scale-DASS21-S) amongst Ethiopian healthcare workers (nurses, doctors, pharmacists, pharmacists, laboratory technicians and others), were associated with the lack of adequate PPE, shift work especially night duty, an increased workload, lack of guidelines on the management of COVID-19 patients, preparedness on infection control measures, a lack of training, poor social support and concerns about family members with chronic diseases (Mekonen, Shetie and Muluneh 2020: 1356; Asnakew, Amha and Kasew 2021: 1379). Some healthcare workers became fearful because they had chronic illnesses and existing mental health problems which worsened as they began encountering COVID-19 patients (Mekonen, Shetie and Muluneh 2020: 1356).

These factors which were reciprocally influencing each other, lends support for the adoption of a holistic approach to understanding how the dynamics within the family and social systems were leading to anxiety and mental health distress. Approaching the complexities of the pandemic not only required measures to protect their physical well-being but also measures to cope, through guidance and support, as they transitioned through the pandemic. This coupled with greater emotional support was crucial to strengthening their ability to cope with the challenges within the nursing milieu, whilst helping them process their fears and anxieties related to their loved one. Adopting a

holistic approach to developing wellness strategies requires then that stakeholders consider the multifaceted and multidimensional issues within the home, work and social spaces of the health care workers', whilst leveraging interventions that could support their mental health.

Research undertaken in Malawi also found that 30% of the sample of health care workers experienced high levels of anxiety (Generalized Anxiety Disorder-GAD-7) (Maliwichi, Kondowe, Mmanga and Mchenga *et al.* 2024: 4). Very similar to the findings made in other international studies, Malawian healthcare workers feared self-infection and infecting loved ones, stigma and discrimination (Maliwichi *et al.* 2024: 7). The South African milieu did not differ markedly from the other countries on the African continent. Robertson *et al.* (2020: 1010) and De Kock *et al.* (2021: 15) reported that healthcare workers experienced greater anxiety, distress, mental disturbances and obsessive-compulsive symptoms during the pandemic. The factors contributing to this included heavy workloads, a lack of PPE, and close contact with COVID-19 patients, being female and having underlying illnesses (De Kock *et al.* 2021: 16). The researchers advocated for building the emotional resilience of healthcare workers, by using a more personalized and holistic approach to protect them from adverse mental health issues. A further suggestion was the development of a healthy, safe and supportive work environment (De Kock *et al.* 2021: 16), which is deserving of consideration when developing a program that focuses on wellness.

Another two South African studies located in the Amajuba and the eThekweni (Durban) districts, concluded that the causes of anxiety amongst healthcare workers, included worrying about taking COVID-19 home to household members, someone in the family getting infected (84% and 99% respectively) and acquiring COVID-19, during the line of work (78% and 75.5% respectively) (Curran, Bachmann, van Rensburg and Murdoch *et al.* 2021: 607; Hoque, Buckus, Hoque and Mahbub ul Alam *et al.* 2021: 3). This resonated with the findings documented earlier within international studies. Hence although empirical research was initially sparse in South Africa, the studies done supported those conducted abroad. Participants from Amajuba were concerned about what would happen to their families if they needed to be quarantined or isolated (68%) or admitted to hospital

(66%) (Curran *et al.* 2021: 607). Again, these concerns resonated with those of the Ethiopian healthcare workers (Mekonen, Shetie and Muluneh 2020: 1356; Asnakew, Amha and Kasew 2021: 1379). Healthcare workers in the study conducted eThekweni had concerns about what would happen if someone in their personal network became infected with COVID-19 (94.3%) and what would happen if the person became severely ill from COVID-19 (91.8%) (Hoque *et al.* 2021: 3).

Some very specific factors contributing to anxiety amongst the South African healthcare workers, included their lack of preparedness to care for COVID-19 patients (38%), the community not wanting to come near them (37%), feeling alone with no one to talk to (32%), not being able to secure healthcare if they acquired COVID-19 (21%), not knowing what PPE to wear (16%), not being able to access COVID-19 tests (12%) and not knowing how to use PPE (9%) (Curran *et al.* 2021: 607).

Additional concerns emerging related to healthcare facilities being under-resourced in terms of PPE (100%), concerns that the public response to COVID-19 was not good (96.1%) and concerns about staff shortages (11.4%). The researchers hoped that the rollout of the COVID-19 vaccines would play a role in mitigating the anxiety of healthcare workers. Despite this they advocated for psychosocial support for all healthcare workers and support for managers who had to use their leadership skills to reduce anxiety among healthcare workers (Curran *et al.* 2021: 608). The huge levels of fear and anxiety were expected given that eThekweni was considered the “hot spot” for COVID-19 infections. Healthcare workers were seeing the effects of this disease at work and enduring the negative impact of limited resources. Hospitals were often full within this district, causing many patients to be left without timely hospital care, which in turn led to fear for family members. This was supported by Sain as he reported on News24, on the 27th December 2020, that the healthcare system in this region was “crippled”, as paramedics were struggling to find beds for patients sick with COVID-19 (Sain 2020).

The literature reviewed reflected then the heightened levels of fear and anxiety amongst both South African and international health care workers. Whilst this was well

documented, very little research however focussed on the nature of support required to buffer the effects of this mental health distress amongst healthcare workers.

2.4.2.2 Guilt, grief, anger, moral distress and moral injury

Natural disasters such as pandemics, have the potential to cause panic, confusion, difficulty in concentration, irritability, a tendency to question too much, denial, bravery, feelings of guilt and social withdrawal (Sheek-Hussein, Abu-Zidan and Stip 2021: 5). Montgomery *et al.* (2021: 8) argued that the psychosocial impact of COVID-19, caused healthcare workers to feel inadequate and guilty.

During the COVID-19 pandemic, healthcare workers experienced guilt for a variety of reasons (Maliwichi *et al.* 2024: 5). This included feeling guilty when they were quarantined, had contracted COVID-19 and when they were exempted from working in COVID-19 units due to medical conditions and pregnancy. This emerged from their belief that they had left the COVID-19 units understaffed. Moreover, watching their patients die without their loved one's present, further precipitated feelings of guilt (Walton, Murray and Christian 2020: 242; Greenberg 2020a: 425; Taylor and Blackford 2020: 1; Negarandeh, Shahmari and Zare 2024: 13).), aptly captured this collective distress when they quoted one of the healthcare workers saying, "we will get through this together, but none of us will survive unscathed".

Another significant contributor to their emotional pain, was that health care workers had to break the news of the death of patients to patients' families via the telephone and Skype, which differed from the norm of using one-on-one contact (Walton, Murray and Christian 2020: 242 and Greenberg 2020a: 425). These different practices triggered their feelings of guilt, grief, anger, inadequacy and dread, with some saying that they even cried after leaving work or on their way to work (Dubey, Biswas, Ghosh and Chatterjee *et al.* 2020: 784; Negarandeh, Shahmari and Zare 2024: 5). Some Dutch health care workers experienced feelings of anger due to having to cope with the different circumstances surrounding the COVID-19 pandemic (de Vroege and van den Broek 2022: 5).

Healthcare workers found it distressing to take on the role of the patients' families in the last moments of the patients' lives (Maben and Bridges 2020: 2743). They had to provide the end-of-life care and support that normally would have been provided by family members (Montgomery *et al.* 2021: 8; Dubey *et al.* 2020: 784; Melander 2021: 15; Nagle, Surina and Griskevica 2023: 9; Xue, Lopes, Ritchie and D'Alessandro *et al.* 2022: 11). This left them feeling angry and frustrated. Their feelings of inadequacy and guilt were also as a result of caring for patients who were isolated, and their inability to care, support and do what they normally would have for their patients (Melander 2021: 15). Working in PPE created further distance between them and their patients and left them unable to perform patient care effectively.

Meghani and Lalani (2020: 198) argued that moral distress was common amongst critical care nurses, who were responsible for caring for an influx of critically ill patients. Moreover, they were continuously faced with ethical dilemmas, which created greater frustration, and impacted their physical and mental health, causing burnout among these participants (Meghani and Lalani 2020: 198). Moral distress can be described as an undesirable state of painful psychological imbalance, which occurs because of an unprecedented situation. Situations can include those related to moral judgement, moral dilemmas, ethical dilemmas, internal and external constraints, lack of resources and moral uncertainty that threaten the moral integrity of the healthcare workers (Simonovich, Webber-Ritchey, Spurlark and Florczak *et al.* 2022: 9; Morley, Ives, Bradbury-Jones and Irvine 2019: 646; Kendall-Tackett and Beck 2022: 6).

Moral distress also includes psychological apprehension when healthcare professionals can recognize what is ethically accurate but are limited in their capacity to take the correct action. A sense of moral transgression may arise as the organization's prescribed measures does not align with the individual's moral principles. This can arise from a result of a lack of power, structural limitations, insufficient staff and resources and training or time (British Medical Association 2021: 2). During the pandemic, limited resources within healthcare institutions resulted in healthcare workers applying certain protocols in the management of patients that did not align with their personal values and morals (Simonovich *et al.* 2022: 9; Morley *et al.* 2022: 6; Nagle, Surina and Griskevica 2023: 7).

One of the first studies, to quantify moral distress amongst health care workers, was conducted in Sweden (Gustavsson, Juth, Schreeb and Arnberg 2023: 1). Most of the participants (85%), who were involved in the direct care of patients, experienced moral distress. This was because healthcare workers working with COVID-19 patients were increasingly being exposed to moral and ethical situations which were distressing.

Maben and Bridges (2020: 2742) further argued that the new way of working as per regulations and providing “end-of-life care” to patients, caused immense stress and moral distress for Australian nurses. Nagle, Surina, and Griskevica (2023: 10) further posited that the endeavor to preserve the lives of numerous individuals, coupled with constrained resources and the necessity of conducting triage during times of crises within healthcare facilities, resulted in significant distress among healthcare professionals, who were unprepared to operate in such challenging environments. Moral distress increased due to the increase in the number of patients, the rapid progress of the disease and their imminent deaths. Healthcare workers globally, had been placed in unprecedented situations that warranted them to make extremely difficult moral and ethical decisions whilst working under intense stress (Greenberg, Docherty, Gnanapragasam and Wessely 2020b: 1). These situations had the potential to cause “moral injury” to healthcare workers (Greenberg *et al.* 2020b: 1).

Moral injury differs from moral distress, in that it has long-term biological, psychological, social, behavioral and spiritual consequences. It occurs because of bearing witness to acts that deeply transgress a person’s moral beliefs, ethics, values and expectations. It may result from an act or omission within the organization or the healthcare workers during periods of crises such as pandemic management (Rosen, Cahill and Dugdale 2022: 3740; Riedel, Kreh, Kulcar and Lieber *et al.* 2022: 4; British Medical Association 2021: 2)

During periods of crises there are limited resources such as ventilators. Healthcare professionals may then adhere to protocols that guide them in determining which patient to ventilate and which patient not to. However, this patient management approach can contribute to ethical dilemmas. They may perceive the implementation of such protocols as an omission of care, despite their oath to preserve life, thereby contradicting their moral

principles. Moral injury can result in feelings of guilt, shame and social withdrawal and can contribute to ineffective functioning and long-term psychological harm. Consequently, individuals present with feelings of betrayal, anger and immense moral disorientation (Rosen, Cahill and Dugdale 2022: 3740; Riedel *et al.* 2022: 4; British Medical Association 2021: 2).

Healthcare workers who suffered moral injury, felt that they were unprotected, as they had no access to or had damaged PPE. They believed that authorities and leaders knowingly endangered staff. The fear of staff infecting others, dealing with dead bodies and that patients had to die in isolation from their loved ones, further contributed to this sense of moral injury (Kreh *et al.* 2021: 10). It also included their witnessing or participating in poor and unethical patient care (Scoglio, Stelson, Becene and Marquez *et al.* 2024: 11).

Coimbra, Zylberstajn, van Zuiden and Hoeboer *et al.* (2023: 10) who conducted a meta-analysis of 33 articles from 12 countries, found that moral injury was associated with “moderately increased symptoms of post-traumatic stress disorder, anxiety, and depression, burnout and suicide ideation”. This led the researchers to conclude that moral injury was associated with mental health problems (Coimbra *et al.* 2023: 11). As moral injury has long term consequences, it entrenches the need and urgency for long term strategies to mitigate the effects of moral injury amongst healthcare workers, even after the COVID-19 pandemic. A perusal of the literature however reflects little attention to this in terms of empirical research, post the harsh waves of the pandemic and dissolution of the lockdown regulations.

Findings from a mixed method study that included participants from both America and Canada revealed the impact of moral injury on worker engagement (Scoglio *et al.* 2024: 11). The study noted four themes as follows: “demoralization of workers who could not meet their own patient care standards; emotional and physical exhaustion of workers that contributed to an inability to complete tasks or be fully engaged; workers choosing to leave their current jobs and workers choosing to leave direct patient care or the healthcare workforce”. Moral injury therefore impacts on the turnover of healthcare workers and

patient care which supports the need for targeted intervention in this regard (Scoglio *et al.* 2024: 11).

The rapid changes in work processes due to COVID-19 safety precautions and the changes in the roles and functions of healthcare workers created immense stress, resulting in them feeling guilty, experiencing grief, anger and moral injury. These unresolved psychological issues have the potential to affect both the psychological health of healthcare workers and work performance, demanding the need for mental health support to help workers deal with same.

2.4.2.3 Depression, burnout and post-traumatic stress disorder

The trajectory of the pandemic and lockdown restrictions coupled with the stressors detailed in the previous sub-section, left many health care workers depressed, feeling burnt out and suffering from post-traumatic stress disorder.

Qualitative studies emerging from countries such as Bangladesh, China, India, Iran, Jordan, Pakistan, Spain, Turkey and the USA captured the depression and trauma experienced by healthcare workers during the COVID-19 pandemic (Razu *et al.* 2021: 3; Sun *et al.* 2021a: 10; Krishnan, Thasneem and Roshni 2020: 3870; Mohammadi *et al.* 2021a: 5; Alhourri *et al.* 2023: 5; Kumar *et al.* 2021: e61; Fernandez-Castillo, Gonzalez-Caro and Porcel-Galvez 2021: 399; Kackin *et al.* 2020: 1; Shreffler, Petrey and Huecker 2020: 1063). Researchers in Bangladesh shed more light on the causes of depression experienced by healthcare workers, saying it stemmed from factors such as a lack of knowledge and basic training about the disease. Participants also alluded to experiencing depression after witnessing the death of a colleague (Razu *et al.* 2021: 3). Alhourri *et al.* (2023: 5) similarly reported that 56% of their Jordanian participants had reported experiencing stress, with 18% reporting severe stress (Depression, anxiety and stress scale). The study further concluded that 65% of the sample experienced depression (Alhourri *et al.* 2023: 5). Healthcare workers in Pakistan reflected on their intensified levels of stress due to the continuous threat of becoming infected and then spreading the infection to family members. Much of this stemmed from the progression of the disease, due to a lack of treatment options and vaccines (Kumar *et al.* 2021: e61).

Other work-related stressors which were leading to depression included healthcare workers feeling pressured to learn new skills on the job, with many having to work beyond the scope of their allocated roles and administering medication that was pre-mixed by their colleagues. They were not familiar with these colleagues but had to trust that the correct medication was prepared. They were also responsible for teaching new staff and spent time seeking accommodation for these staff, as the organization did not pre-arrange accommodation (Romate and Rajkumar 2022: 5; Andersson, Nordin and Engstrom 2022: 3). Iranian healthcare workers also reported that the increase in work demands, due to the increased number of COVID-19 positive patients and decreased resources such as a limited number of personnel, exacerbated occupational stress amongst frontline healthcare workers and led to depression (Mirzaei, Mozaffari and Soola 2022: 1).

Healthcare workers in Iran, became depressed being at work in COVID-19 facilities for long durations, having minimal social contact with work colleagues, and being away from their families for extended periods of time (Mohammadi *et al.* 2021a: 5). They were severely affected by the lockdown regulations as many of them lived away from their homes, to protect their loved ones. Whilst some visited their family on their days off, others did not, which left them feeling isolated. Many healthcare workers also lost their colleagues who worked alongside them to COVID-19. This was shocking and distressing as these healthy colleagues were succumbing to COVID-19 (Mohammadi *et al.* 2021a: 5).

There were multiple studies emerging from China which reflected that their healthcare workers, were experiencing mild to moderate stress (70.2%; 59%) and depression (56%; 20.1%) (Xing *et al.* 2021: 657; Zeng and Zhen 2020, cited in Du *et al.* 2020: 144). One study found that depression amongst nursing staff (58.8%) was significantly higher than the doctors (34.3%) (Self-Rating Depression Scale-SDS) (Xing *et al.* 2021: 657). Most of the participants became stressed about becoming infected with COVID-19 in the wards, as there were insufficient disinfection measures, a shortage of PPE and they were concerned about spreading the virus to family and friends (Xing *et al.* 2021: 657). It was possible that nurses were presenting with greater levels of depression as they had less knowledge about the disease process, prognosis of patients and had continuous close

contact with patients performing risky tasks that made them more vulnerable to contracting COVID-19.

Sun *et al.* (2021a: 9) also found that frontline healthcare workers were significantly more depressed (53%) than those not on the frontline (38%) (Depression, Anxiety, Stress Scale-DASS and Self-Rating Depression Scale-SDS) and that depression was more increased in females than males. Other multi-national studies also found that it was the unmarried and childless females were more depressed than their male counterparts. The younger cohort of participants, those who lived with their parents and those who felt that they were not receiving any support, were more likely to experience depression (Nicolaou, Menikou, Lamnisis and Lubenko *et al.*, 2021: 67).

Two other studies in Pakistan, found that healthcare workers working in isolation units had recorded higher levels of stress (90.1%; 14.7%) and depression (72.3%; 20.5%) (Depression Anxiety Stress Scale-21-DASS-21) than their colleagues in cardiac care units (Sandesh *et al.* 2020: 3; Kumar *et al.* 2021: e61). The differences amongst participants of the same country were linked to their areas of practice. Those working in the cardiac care unit, were not directly involved in caring for COVID-19 patients, hence they experienced lower levels of stress. Those working in isolation units were at an increased risk of infection and exposed to continuous suffering and the death of their patients and colleagues making them more prone to depression. Sandesh *et al.* (2020: 3) further concluded that participants in the isolation units were also confronted by the lack of PPE (62.5%).

A global online study that included participants from 44 countries (n=13 537), also reflected the turmoil and stress caused by COVID-19 (Couarreaze, Delamarre, Marhar and Quach *et al.* 2021:1). It found that the paramedics experienced stress levels that were 12. 7% higher than that of medical doctors. This was linked to the fact that paramedics were more exposed to the virus as first responders and were transporting patients in a limited space in ambulances, with fewer resources than other medical staff (Couarreaze *et al.* 2021: 8). Similar to the findings in the studies reviewed, nurses reported experiencing higher levels of stress and depression than doctors and women and were found to be more severely affected than men. These findings supported those

made by Lai *et al.* (2020: 8) who similarly found that nurses experienced higher levels of stress levels than doctors. This study also found that younger people were at greater risk of stress and depression than the more mature cohort of healthcare workers, as documented by other researchers such as Huang and Zhao (2020: 3).

In a study in Jordan, it emerged that about 35% of the healthcare workers were severely distressed, with 95% of this sample experiencing depression, which ranged from extremely severe depression (35%), to moderate to severe (40%) and mild depression (20%) (Depression, Anxiety, Stress Scale, and the Multidimensional Scale of Perceived Social Support) (Alnazly *et al.* 2021: 12). Huang and Zhao (2020: 3) found that participants in China who were younger than 35 years of age, had experienced significant symptoms of depression. This was perhaps due to the decreased work experience and the increased workload. Almost half (48%) of American healthcare workers experienced depressive symptoms, which was significantly lower than their counterparts in Jordan (95%) (Shechter *et al.* 2020: 3; Alnazly *et al.* 2021: 12). The factors contributing to these significant differences in the levels of depression, could have related to the timing of the study, as well as access to resources and support received during the pandemic. Decreased social interaction, lack of support and resources would also have increased depression levels amongst healthcare workers.

In Ethiopia two studies found that healthcare workers experienced varied levels of stress (20.5%; 63.5%) and depression (55.3%; 58.2%), respectively (Mekonen, Shetie and Muluneh 2020: 1360; Asnakew, Amha and Kasew 2021: 1380). Both studies applied the Depression, Anxiety and Stress Scale-2-DASS-21 to measure the variables. The stress levels seemed to have been significantly lower in the first study by Mekonen, Shetie and Muluneh (2020: 1360), as compared to the second study by Asnakew, Amha and Kasew (2021: 1380). A contributory factor was likely the timing and duration of the studies, as data collection for the first study took place in the last quarter of 2020 and spanned about three weeks. The second study took place over a period of four months from May to September 2021. Perhaps by this time the pandemic had intensified, and the prolonged restrictions resulted in greater stress levels among the participants of the second study

(Mekonen, Shetie and Muluneh 2020: 1360; Asnakew, Amha and Kassew 2021: 1380). The level of depression was relatively similar in both studies.

A systematic review conducted by South African researchers, found that healthcare workers were experiencing stress, depression, post-traumatic stress disorder symptoms and burnout (Robertson *et al.* 2020: 1018). In South Africa itself, Hoque *et al.* (2021: 3), reported that healthcare practitioners had experienced significant levels of moderate to severe stress (97.5%) (Kessler psychological distress scale-K-10) and depression (12.6%). South Africa experienced one of the worst COVID-19 waves in Africa and hence it was not surprising that this study had found such high levels of stress and depression amongst healthcare workers.

Curran *et al.* (2021: 607) further argued that the increased stress levels amongst healthcare workers in their study, were related to increased work demands (64%). There were many healthcare workers who became infected with COVID-19, thereby decreasing the number of healthcare workers on duty, whilst at the same time infection rates amongst members of the public had increased. Hence the workload of healthcare workers increased. Contrary to findings made in the South African study by Curran *et al.* (2021: 67), Ghanaian healthcare workers experienced lower levels of stress (8.2%). This was attributed to the government offering some tax relief to them, which also resulted in a corresponding decrease in depression (21%) (Ofori *et al.* 2021: 4). Rossi, Socci, Talevi, Mensi, Niolu, Pacitti and Di Marco *et al.* (2020: 4) advocated for mental health protection services to be planned and implemented for the public as well as special groups such as healthcare workers.

Scholars from Britain argued that these increased levels of stress and depression, made healthcare professionals more vulnerable to post-traumatic stress disorder and burnout (Schneider *et al.* 2021: 3). Others such as Xie *et al.* (2021: 5) found that their cohort of Chinese healthcare workers were presenting with depression as well as obsessive-compulsive behaviors and interpersonal sensitivity. This was disturbing as healthcare workers were now developing more serious mental health issues. Post-traumatic stress disorder and depression was also documented in India and Pakistan which supported the notion that the excessive stress was birthing more serious mental health problems during

the pandemic (Romate and Rajkumar 2022: 5; Spoorthy, Pratapa and Mahant 2020: 3; Vizheh, Qorbani, Arzaghi and Muhidin *et al.* 2020: 197; Shaukat, Ali, and Razzak 2020: 6; Sandesh *et al.* 2020: 3).

More specific factors that were contributing to mental health distress, emerged from a Mexican study where healthcare workers were found to be experiencing significantly higher levels of depression (72.6%) and post-traumatic stress disorder (19.4%) (Post Traumatic Stress Syndrome Checklist-PTSD Checklist) symptoms. Female doctors were found to present with higher levels of stress because of their caregiver roles in terms of their children, having to source helpers to take care of their children, dealing with the loss of their loved ones, and being discriminated against (Rojas *et al.* 2022: 4). The depression amongst Mexican healthcare workers, was considerably high as compared to the Indian healthcare workers (34.9%) (Chatterjee, Bhattacharyya, Bhattacharyya and Gupta *et al.* 2020: 259).

Anxiety, fear, guilt, stress, depression, moral distress and moral injury and other psychological effects were prevalent among those in direct contact with COVID-19 patients. Numerous healthcare professionals had already experienced post-traumatic stress disorder, and it was anticipated that a significant number of additional individuals would also be affected. Nurses and the younger, less experienced healthcare workers were particularly vulnerable. Gender, marital status, and pre-existing health conditions were key factors influencing the severity of psychological distress. Given the prolonged nature of the pandemic and the ongoing challenges faced by healthcare systems worldwide, it is crucial that healthcare organizations prioritize mental health support for their workers, beyond the pandemic. This includes ensuring adequate protective measures, fostering a supportive work environment, and providing accessible psychological counselling to mitigate the long-term effects of pandemic-related stress. Healthcare professionals should be equipped with the necessary skills and knowledge to implement strategies that promote and maintain their psychological well-being.

2.4.3 Social and work-related impact of the COVID-19 pandemic

The COVID-19 pandemic affected the social aspects of healthcare workers lives, their families and their work significantly. These factors are discussed in the sub-sections that follow.

2.4.3.1 Rethinking career paths and work arrangements

The unprecedented nature of the pandemic influenced some healthcare workers to consider changing their career paths or resign from their positions. Swedish healthcare workers found it challenging to work under the extremely difficult conditions that arose due to the nature of the pandemic and found it difficult to keep motivated. This resulted in some participants having “the desire to resign” and feeling regretful over their career choice (Melander 2021: 11). In fact, in India, many Indian healthcare workers were forced to resign from their jobs, due to family pressure (Romate and Rajkumar 2022: 5). Moreover, the families of healthcare workers received no psychological or social support from the Indian government.

Robinson, Engelson and Hayes (2021: 1254) argued that female employees in the USA, were compelled to juggle many roles and lacked support, especially in relation to childcare. This caused them to modify their work schedules or resign from their jobs. In the Netherlands, healthcare workers, reorganized their work by working less hours (7%) or working from home (31.5%) whilst others (4.2%) considered resigning (de Vroege and van den Broek 2022: 4). These findings highlighted the need for government and healthcare institutions to provide professional support to protect the mental health of these employees and to create a balance between work and family life and commitments. It was unfortunate that during the pandemic many female healthcare workers were forced to abandon their jobs, as work systems had not considered the stressors that they endured, in terms of their work and family commitments. There is also a pressing necessity to enable health care professionals to take charge of their own resilience in order to navigate difficult circumstances effectively.

2.4.3.2 Holistic organizational support, collegial support and leadership

The stressors emerging from the COVID-19 pandemic, necessitated the need for healthcare workers to receive organizational support and be led by proactive, visible leaders, who could care for, value and appreciate them. Healthcare workers were deeply fearful given the rampant spread of the virus, that colleagues and loved ones were becoming infected and passing on. The lack of effective institutional leadership practices, inadequate organizational preparation and communication, unjust allocation of work and roles, and a lack of resources caused much discontent amongst healthcare professionals particularly within the context of the rapid spread of the virus (Chemali, Mari-Saez, El Bcheraoui and Weishaar 2022: 5).

The gross shortage of PPE, compelled countries to amend their procuring processes to gain quick access to these items (Chemali *et al.* 2022: 5). In Bangladesh and Iran there was evidence of corrupt practices, regarding businessmen recycling, previously worn PPE, for use by unsuspecting healthcare workers, which left them feeling very disgruntled (Razu *et al.* 2021: 2; Mohammadi *et al.* 2021a: 7; Mohammadi *et al.* 2021b:5; Karimi *et al.* 2020: 127). Businesses had drastically marked up the prices for gloves and masks, knowing that it was crucial for the public and healthcare workers to purchase them for their safety. Bangladeshi nurses also felt short-changed as they felt that doctors were given priority to receive quality PPE over them (Razu *et al.* 2021: 2; Mohammadi *et al.* 2021a: 7; Mohammadi *et al.* 2021b:5 and Karimi *et al.* 2020: 1275). In South Africa, some businessmen and government officials took advantage of the situation to profit themselves, leaving healthcare workers feeling disillusioned (Mbunge 2020: 1813). These shortages were exacerbated by rampant corruption, including the misuse of funds allocated to fight COVID-19 and significant capital investments for local PPE manufacturing.

Healthcare workers in Pakistan also shared that the COVID-19 pandemic had disrupted their professional and personal lives. The extreme safety precautions during the lockdown, and lack of social support due to isolation and social distancing added to their woes (Kumar *et al.* 2021: e61). Other healthcare workers in Pakistan, also reported that

the lack of administrative support, transportation and accommodation had added to their despair (Meghani and Lalani 2020: 198).

Writing within the work context, healthcare workers from Austria, Bangladesh, China, India, Iran, Spain, Sweden, UK and USA collectively believed that they were fighting a deadly virus without a vaccine to protect them. They lamented the lack of organizational support which was missing at places of work. Of significance however was their despair that their organizational managers, remained aloof and disconnected and rarely enquired about their well-being and how they were coping (Kreh *et al.* 2021: 10; Razu *et al.* 2021: 4; Han *et al.* 2022: 7; Spoorthy, Pratapa and Mahant 2020: 310; Karimi *et al.* 2020: 1275; Fernandez-Castillo, Gonzalez-Caro, Porcel-Galvez 2021: 403; Andersson, Nordin and Engstrom 2022: 1; Walton, Murray and Christian 2020: 241; Shechter *et al.* 2020: 3). These are important factors that are deserving of consideration within a holistic program that is seeking to build the wellness of healthcare workers.

The lack of sensitivity towards the fears of health professionals, was evident within reports by Swedish participants, as they were “ordered” to work in the COVID-19 intensive care unit (ICU) but had not been welcomed or orientated to the ICU. Whilst support was evident from their colleagues, it was very minimal as people endeavored to keep their distance from each other (Andersson, Nordin and Engstrom 2022: 3). They believed that at the height of crises during the pandemic, support from their leaders was minimal. Personnel were rapidly redeployed in an autocratic manner, to work in clinical practice areas, where additional human resources were required. Those in these units however were not collegial preventing them from receiving the requisite support required. Leaders therefore lacked compassionate leadership strategies and rarely followed up on the progress of those healthcare workers who were redeployed which left them feeling unsupported and uncared for (Andersson, Nordin and Engstrom 2022: 3).

Nurses who had to work under rapidly shifting and new conditions, required greater support from their employers, their colleagues, the profession and society to be able to be well enough to cope with their jobs and personal lives (Maben and Bridges 2020: 2743). Moreover, they needed to feel that their needs were being considered and attended to, they were being provisioned with safe and adequate PPE, adequate rest

breaks, positive and collegial team spirit and the assurance that leaders would care for them even after the pandemic. Maben and Bridges (2020: 2748) argued that the building of wellness and resilience was not just an individual function, but a “collective and organizational responsibility,” that was crucial to acknowledging that nurses carry the “stresses and emotional strain” of society. Other scholars however, shared that working under these difficult conditions had contributed to improved relationships amongst colleagues, as they endeavored to work in harmony and trust with each other (Fernandez-Castillo, Gonzalez-Caro and Porcel-Galvez 2021: 403).

This review reflected that healthcare workers received minimal or no support in what was a new and distressing work environment. Many were redeployed to new environments, without requisite PPE and training to cope with a rapidly spreading virus.

2.4.3.3 Family, friends and other significant persons as a support structure

Many healthcare workers were able to cope emotionally due to the support that they received from family and friends (Romate and Rajkumar 2022: 16). However, there were also those healthcare workers who found themselves disconnected and isolated from this support. Research found that healthcare workers in Jordan had received varying levels of family support, ranging from low (10%), moderate (30%) to high levels (60%) of family support, during the pandemic, as evidenced in a study by Alnazly *et al.* (2021: 12).

In another multi-national study, which included participants from Europe and China, participants also received varying levels of family support. These ranged from low (17%), to moderate (52.2%) and high levels of support (30.7%) (Nicolaou *et al.* 2021: 67). It is possible that the cultural differences amongst families across the three continents, may have resulted in the Jordanian healthcare workers receiving greater family support than their global counterparts. Spoorthy, Pratapa and Mahant (2020: 3) however underscored the need for support from family and colleagues, positive role models, validation and appreciation from patients to cope with their new and stressful work circumstances.

Family, friends and other loved ones play a crucial role acting as a strong support system for healthcare workers. These support structures should be considered and activities to

promote relationships between workers and their support systems are crucial to buffering the stress emerging from the pandemic.

2.4.3.4 Donations, gifts or public support

Healthcare workers appreciated positive reinforcements from the public, as it made them feel appreciated and valued. Donations, gifts and emotional support in the form of praise, increased the morale of the nurses, who were referred to as “heroes”. It motivated the healthcare workers as they felt that they were not alone in the fight against COVID-19 (Han *et al.* 2022: 7). They reported that the weekly applause of healthcare workers in Europe for example, had helped to lift their spirits and the nurses were grateful for the gifts that they received in the form of food and other items (Maben and Bridges 2020: 2743).

Other examples in the literature, were medical students in Canada from the University of Toronto who assisted healthcare workers by babysitting, fetching groceries, carrying out domestic tasks, pet care and performing a host of other tasks (Vendeville: 2020). They also assisted by decreasing the burden of work, by offering their services for contact tracing. The medical students were of the view that if they assisted healthcare workers it would enable these professionals to focus on their work and decrease the stress emerging from their other responsibilities (Vendeville 2020). There were healthcare workers, however who received no incentives, recognition or appreciation (Meghani and Lalani 2020: 198). In some countries governmental authorities had promised incentives but failed to honour them (Razu *et al.* 2021: 4). These findings underscore the need for organizational and managerial support which could include psycho-education and training, which could capacitate them with coping skills (McFadden, Ross, Moriarty and Mallett *et al.* 2021: 11).

Given that healthcare workers were working under extremely difficult conditions, tokens of appreciation and assistance uplifted their morale and made them feel cared for. Hence, it gave them a sense of purpose and the motivation to carry on “doing good”.

2.4.3.5 Duty to care

Despite the challenges faced by healthcare workers, many believed that they were duty-bound to serve humanity and work in the best interests of their patients. This reflected the oaths that they had taken. Romate and Rajkumar (2022: 6) shared that healthcare workers, in India had continued to work as they felt that the government had given them a job, so they needed to be loyal. They also saw their work with COVID-19 patients, as that of serving God, which inspired their commitment to patient care (Romate and Rajkumar 2022: 6). This was reflected in a study by Dai, Hu, Xiong and Qiu *et al.* (2020: 2) who found that about 90% of Chinese healthcare workers, had volunteered to be involved in the frontline care of COVID-19 patients, even after being exposed to the extreme challenges and working conditions.

Shechter *et al.* (2020: 4) said that about 61% of their American sample, described feeling a greater sense of purpose and expected “things to get better”. Hence contrary to the negative experiences of most healthcare workers, there were some who found a sense of “purpose” in their work and felt that they could contribute to their work environment (Shreffler, Petrey and Huecker 2020: 1063). Some studies have documented that their participants (75%), had felt satisfied with their work (Menon *et al.* 2022: 12). This reflected the commitment and dedication of those willing to work under adverse circumstances.

In certain instances, like in Spain, healthcare workers formed a crucial link between patients and their families, as there were no visitors allowed into hospitals. They described their roles of being an “intermediary” between patients and their families rewarding (Fernandez-Castillo, Gonzalez-Caro and Porcel-Galvez 2021: 399). Similar findings were made in Turkey with healthcare workers reporting that despite challenges, nurses were still willing to continue with their efforts to fight the pandemic (Kackin *et al.* 2020: 6). Montgomery *et al.* (2021: 3) explained that moral density is a strong sense of purpose and duty. Intensive care nurses acknowledged the danger of the pandemic, but more than that, they recognized the danger the pandemic posed to society as a whole. They were committed to working during the pandemic as it was a part of their professional duty to do so. Nurses saw themselves as collectively working together, cutting across professions and hierarchies to achieve a common purpose. Nurses spoke of a “strong

sense of duty.” This was reflected in the words of one participant who was redeployed to work in the ICU, who said “I just felt that I had to do it” (Montgomery *et al.* 2021: 3).

This body of literature reflects the commitment, resilience and professional dedication of healthcare workers who despite their vulnerability to infection, remained steadfast in their care of patients who needed them the most. It highlighted the positive aspects of working clinically during the pandemic and reflected that the oaths taken by healthcare professionals, to serve humanity, had grounded this commitment despite working under stressful and biologically hazardous conditions.

2.4.3.6 Social interaction

Social support and connectedness during the pandemic were difficult, within the context of a virus transmitted primarily by human-to-human contact. The effect of the pandemic was hence not limited to physical health but disrupted the psychological and social functioning of health care workers who had to distance themselves from many to minimize the spread from unknown sources, quarantine to safeguard against infection and isolate to limit infection from outside sources (Saltzman, Hansel and Bordnick: 2020: S55). This reflects the indivisibility of the physical from the social domains that are connected within the biopsychosocial and spiritual model. Social functioning was severely disrupted because of social distancing, loss of normal social routines, loneliness from periods of isolation and separation from loved ones and friends. When compared to other sectors of the public, health care workers are more vulnerable to negative psychological responses which is exacerbated through risk of contact with patients. As demonstrated in the preceding sections, mounting evidence indicates the prevalence of depression, anxiety, stress, and trauma among healthcare workers.

The nature of the isolation encountered by these professionals has also been widely documented, reflecting concerns for their mental health. Saddik *et al.* (2021: 9) reported that about 94% of participants from the United Arab Emirates, had restricted their social contact, around 48% had considered taking leave from work and over half of the sample (76%) had considered isolating themselves from their families because they worked in high-risk environments. Similarly, health care workers in Turkey resorted to reducing their social interaction with friends and shared that even during phone calls to friends, they felt

that there was not much to talk about (Kackin *et al.* 2020: 6). Friends of healthcare workers, who worked in COVID-19 units were also discouraged from visiting them, adding to their feelings of stigma and disconnectedness from their typical social support networks. One participant shared that this had worn her down emotionally (Kackin *et al.* 2020: 6). Whilst these measures aimed to prevent the spread of infection throughout healthcare institutions, they lacked understanding of the mental health ramifications for those left in social isolation.

The increased workloads resulted in shift work, amongst health care workers which impacted their family life, as their family members were not always available during their odd hours (Rodriguez and Sanchez 2020: 198). There was also a change in normal routines, as some had to stay in accommodation away from their homes (Melandar 2021: 11). This decreased social interaction resulted in 65% of American healthcare workers experiencing loneliness with nurses or advanced practice providers experiencing greater loneliness than their counterparts (Shechter *et al.* 2020: 3). The social distancing and preventative measures also exposed staff to boredom, exhaustion and loneliness as they were accustomed to working closely in a team (Walton, Murray and Christian 2020: 242).

Most times, healthcare workers chose to limit social interaction for fear of loved ones becoming infected. This increased their feelings of isolation which was exacerbated as healthcare workers were exposed to extreme levels of stigmatization that is discussed in the sub-section that follows.

2.4.3.7 Stigma and violence experienced by healthcare workers

During the COVID-19 pandemic, health care workers caring for COVID-19 patients endured stigmatization which created a huge social problem. Fear, lack of knowledge and misinformation amongst the public manifested in discrimination, ostracism and deprivation of social rights which resulted in adverse biopsychosocial and occupational consequences.

A study conducted with members of the public from Canada and the USA, found that 32% of people believed that healthcare workers were likely to have COVID-19 (Taylor, Landry, Rachor and Paluszek *et al.* 2020: 3). This sample also felt that healthcare workers

should have restrictions on their freedom of movement (26%), not being allowed to go out in public (25%) and healthcare workers who work with COVID-19 patients should be isolated (36%). Almost half of the participants (47%) did not want to be around the healthcare workers who worked with COVID-19 patients (Taylor *et al.* 2020: 2).

Research reflects that healthcare workers who were directly involved in caring for COVID-19 patients were stigmatized by family members, colleagues and neighbours (Xing *et al.* 2021: 662). They lacked support as family and friends seemed to believe, that all nurses were infected with COVID-19 and hence feared being infected by them. Nurses even experienced stigmatization from their fellow colleagues, who were not working with COVID-19 patients (Han *et al.* 2022: 7). In extreme circumstances certain communities prevented healthcare workers from entering the community after work, for fear that they would spread COVID-19 infection amongst them. This increased the despair of healthcare workers and deepened their concern, that their families would be discriminated against (Dai *et al.* 2020: 9). Studies in Japan also found that the healthcare workers were experiencing feelings of being isolated and discriminated against, which had the potential to negatively impact their mental health at the beginning, during or even after such a disaster (Ide *et al.* 2021: 12). Of greater concern, was that Pakistani nurses were also often victims of violence and harassment by the public (Meghani and Lalani 2020: 198).

Studies conducted in India, found that healthcare workers experienced several types of stigmas (Romate and Rajkumar 2022: 5; Chakma *et al.* 2021: 642; Vaibhav, Priya and Gupta 2020: 4782; Bagcchi 2020: 782; Chakma *et al.* 2021: 644). Healthcare professionals from Hyderabad-Karnataka were exposed to physical violence and verbal abuse from patients and their families, who felt that healthcare workers were not doing their best or enough for their patients (Romate and Rajkumar 2022: 5; Bagcchi 2020: 782). In the Czech Republic, healthcare workers experienced greater verbal aggression from families of patients and the public in the later stages of the pandemic (Janouskova, Pekara, Kucera and Kearns *et al.* 2024: 6).

Other healthcare workers were treated as “untouchables” by their communities and some healthcare workers were even forced out of their rented homes (Romate and Rajkumar 2022: 12 and Chakma *et al.* 2021: 642). The stress experienced by healthcare workers

was compounded by the stigma and rejection that they received from neighbours, friends and relatives who felt that the healthcare workers were spreading COVID-19 (Chakma *et al.* 2021: 644). Discrimination was also levelled towards family members of healthcare workers, as their children reported not being invited to the homes of friends (Janouskova *et al.* 2024: 7). Research undertaken in the United Arab Emirates (UAE) illustrated the increased levels of stigma (58.6%) experienced by healthcare workers from their friends and family (Saddik *et al.* 2021: 5). This type of ostracism and shunning from family and friends would inevitably have been more painful, leaving healthcare workers feeling lonelier and isolated as their loved ones, who were supposed to be their biggest support system during times of crises, now ostracized them.

In Bangladesh, Columbia, Malawi and Mexico, healthcare workers were also victims of stigma and personally directed violence (Razu *et al.* 2021: 3, Bagcchi 2020: 782, Rojas *et al.* 2022: 2 and Cassiani-Miranda, Campo-Arias, Felipe Tirado-Otalvaro and Botero-Tobon *et al.* 2021: 732). Healthcare workers also had to endure being forcibly removed from their place of residence and rented abodes, denied access to public transport and were insulted on the street and exposed to extreme levels of shunning (Bagcchi 2020: 782). Some Mexican doctors and nurses resorted to using bicycles to work, as they feared being physically assaulted when they used public forms of transport. Devi (2020: 658) reported that violent attacks against the healthcare workers during the pandemic were seldom reported. Attacks on medical infrastructure made work environments unsafe, hence it lessened the quality of their lives, decreased quality of job performance and patient care. In Bangladesh neighbours described the healthcare workers, as a “nuisance,” relatives distanced themselves from them and proprietors increased their rent in a bid to oust them from their property. This was emotionally distressing for healthcare workers, who were reduced to tears when describing these events (Razu *et al.* 2021: 3).

Healthcare workers in Columbia (35.4%) and Mexico (30.3%) also experienced stigma because they were seen as sources of infection (Cassiani-Miranda *et al.* 2021: 732; Rojas *et al.* 2022: 2). There was a misconception that they would spread the virus. Mexican healthcare workers were targets for verbal aggression (15.1%) and physical aggression (3.9%) (Rojas *et al.* 2022: 2). Studies in Central America and Columbia also found that

healthcare workers were attacked by the public who were frustrated with the lack of proper care and the new burial protocols, which they were reluctant to follow (Insight 2020, cited in Bhatti, Rauf, Aziz and Matins *et al.* 2021: 3). It was evident that a lack of knowledge and understanding by the public, regarding COVID-19, had resulted in healthcare workers becoming targets of stigma.

The pandemic's impact on life beyond the hospital setting was manifested in the stigma associated with providing care for COVID-19 patients, as well as the pervasive fear of contracting the virus and transmitting it to their loved ones (Melander 2021: 11). English critical care nurses felt excluded and isolated as many of their colleagues were afraid to come to the ICU as they feared their colleagues would spread the virus to them (Montgomery *et al.* 2021: 3). Grover, Singh, Sahoo and Mehra (2020: 1) provided a case study of how to receive psychological help at work, after a healthcare worker was shunned at work due to rumours of her being COVID positive. She was incorrectly blamed for carrying the infection to the workplace, and colleagues openly avoided physical contact with her despite a test result indicating she was negative. Regardless of the latter she was asked not to return to work and was ridiculed and shamed each time she tried to visit her supervisor (Grover *et al.* 2020: 1). This situation underscored the significant stigma that healthcare professionals faced from their peers.

The COVID-19 pandemic resulted in an alarming escalation in the number of health care workers being stigmatized, ostracized, harassed or threatened for spreading the virus. This created huge mental health distress and resulted in a gross violation of their human rights. According to Negarandeh, Shahmari and Zare (2024: 22) such stigma persists even post pandemic, posing a huge dilemma for healthcare workers. Mental distress and exhaustion emerging from stigmatization can affect healthcare workers for several years after an outbreak, resulting in anxiety, depression, stress and insomnia thus calling for greater mental health support (Saragih, Tarihoran, Rasool, Saragih, Tzeng and Lin 2022: 6).

Negarandeh, Shahmari and Zare (2024: 22) argued that to address this, comprehensive interventions were required, which include stigma prevention programs as support to buffer the stigma experienced by these professionals. Anti-stigmatization measures

include informing society about the realities healthcare workers face, as they endeavor to care for sick patients, presenting an accurate and empathic image of them whilst providing healthcare workers with psychosocial support and encouraging them to use spirituality as a support and coping mechanism.

Moreover, ongoing support within the workplace milieu is crucial to preventing the exacerbation of the physical and psychological effects that can contribute to poor work performance and affect quality patient care. Menon, Pattnaik and Padhy (2021: 91) further suggested that the government take measures to provide credible information, which would decrease myths and misconceptions around COVID-19. The use of repeated and sustained information campaigns would be effective in the condemnation of stigma-related incidents directed towards healthcare workers. However, the need for online mental health support groups was important for healthcare workers to stay connected with each other, draw on their experiences and discover strategies to promote positive coping (Menon, Padhy and Pattnaik 2020: 400).

2.4.3.8 Financial distress

The COVID-19 pandemic produced unprecedented effects on households globally causing severe declines in income and causing higher rates of unemployment and financial hardship. Consequently, mental health and wellness deteriorated as families struggled to purchase basic goods such as food, pay for affordable housing, healthcare and transportation. Many healthcare workers, particularly those in underpaid roles, faced greater financial hardship due to disrupted work conditions, inadequate compensation, and new personal financial burdens (Bhargava, Sarkar and Kroumpouzou 2020: 4 and Maben and Bridges 2020: 2750). Increased working hours, especially in critical care and emergency settings, led to additional stress, but compensation for this overtime was often inadequate.

Frontline workers from India and Pakistan reported feeling financially constrained. They felt that the government should compensate them with a pay increase or a financial incentive. Healthcare workers did not receive this and were left feeling undervalued or underappreciated and frustrated (Romate and Rajkumar 2022: 9; Meghani and Sajwani

2013, cited in Meghani and Lalani 2020: 198). The pandemic also highlighted wage inequalities, with doctors and specialists often receiving better compensation and benefits than nurses, auxiliary staff, and support workers, despite all facing similar risks (Shreffler, Petrey and Huecker 2021: 1068).

In Britain, healthcare workers also experienced financial hardships during the COVID-19 pandemic (British Medical Association 2022: 36). Many general practitioners were unable to earn a salary, as patients were not able to visit them during the lockdown. Healthcare workers who became infected with COVID-19 lost their ability to work due to the debilitating effects of the disease. A few healthcare workers shared that they were bedridden, could not walk without a walking aid, were unable to perform the activities that they had previously engaged in and had to be on long term sick leave. Some lost their jobs which plunged healthcare workers and their families into a financial crisis (British Medical Association 2022: 36).

The literature reviewed also highlighted that many other categories of workers faced job losses, which inevitably added to the financial vulnerability of the households of health care workers (de Miquel, Domenech-Abella, Felez-Nobrega and Cristobal-Narvaez *et al.* 2022: 1). Hasan, Hamid, Yaqub and Ahmed *et al.* (2020: 385) argued that financial stress most certainly existed amongst healthcare workers, but this issue was not adequately discussed in literature. Despite some of them having to manage their households with decreased salaries, they also had the added burden of having to purchase their own PPE.

Healthcare workers had to contend with heavy workloads, volumes of new information and protocols, new work practices and roles, redeployment and job insecurity lack of adequate compensation and other increased personal financial burdens. While some workers received public support in the form of donations and gifts, many others faced financial insecurity due to a combination of insufficient hazard pay, wage inequality, and lack of institutional support. The pandemic has therefore highlighted the need for more robust financial systems and comprehensive support mechanisms for healthcare workers to ensure their well-being and long-term financial security, both during and after a public health crisis.

2.4.3.9 The impact of COVID-19 on the families of healthcare workers

The COVID-19 pandemic plunged almost the entire world into isolation and whilst patients and healthcare workers encounter the effects of outbreaks, inevitably families were also affected. Research conducted with 324 family members of health care workers in different countries, found that they experienced panic attacks (54.9%), depression (49.7%) and anxiety (44.4%) with 18.2 % reporting divorce within the home. (Amakiri *et al.* 2020: 3). Other studies reported how the worry, lack of understanding and support from family members contributed to increased levels of stress among Chinese healthcare workers (Xing *et al.* 2021: 662). Nurses from China and India shared that they were forced to work long hours, spending protracted periods of time away from their children and family members which disrupted normal family relationships, and left them unable to care for family members. This evoked feelings of worry and concern for the well-being of their families (Han *et al.* 2022: 6; Chakma *et al.* 2021: 642). Healthcare professionals who were compelled to separate from their family and friends encountered a significant absence of support from their social circles, leading to a profound desire for that support (Han *et al.* 2022: 7; Dai *et al.* 2020: 9).

Scholars have observed that nurses originating from India, Iran and Pakistan refrained from visiting their children and relatives in an effort to mitigate the transmission of infection (Chakma *et al.* 2021: 642; Moradi *et al.* 2021: 1164; Megani and Sajwai cited in Meghani and Lalani 2020: 198). This decision led to a significant reduction in familial interactions, particularly in terms of physical contact with their children and direct conversations with their spouses. Additionally, the unpredictable nature of their work schedules further complicated the ability of healthcare professionals to return home and engage with their loved ones, thereby adversely affecting familial relationships (Chakma *et al.* 2021: 642; Moradi *et al.* 2021: 1164; Megani and Sajwai 2013, cited in Meghani and Lalani 2020: 198).

Some healthcare workers were compelled to reside in accommodation away from their families, while others were required to work at considerable distances from their homes (Chakma *et al.* 2021: 642). They experienced persistent anxiety regarding the potential transmission of the virus to their children and elderly parents, particularly those who

remained at home while attending to COVID-19 patients. This enforced separation led to feelings of "longing and sadness," as many were distanced from their young children, including infants and school-aged kids who depended on their mothers. Furthermore, this separation was often not comprehended or readily accepted by the families of these healthcare workers (Chakma *et al.* 2021: 644).

The experience of residing away from home, resulted in a decline in meaningful interactions with children and significant others, resulting in a profound influence on familial bonds. This impact was notably pronounced in relation to the children, as the time spent together and the milestones, they attained without the presence of their parents represent unique and irreplaceable moments.

Chakma *et al.* (2021: 644) indicated that the separation from their mothers had a detrimental impact on family dynamics, as children struggled to comprehend the reasons behind their mothers' isolation, leading to feelings of anger towards them. In a study conducted by Menon *et al.* (2022: 12), it was revealed that 50% of participants in Iran frequently contemplated work-related issues during their leisure time, which hindered their ability to fully engage with their families. This finding underscores the difficulty healthcare professionals faced in delineating their work and personal lives, reflecting the significant stress they endured (Razu *et al.* 2021: 3).

Additionally, other researchers have highlighted that family members harboured concerns about nurses potentially transmitting the virus to their homes, thereby endangering their loved ones (Moradi *et al.* 2021: 1164). Similarly, participants in the United Kingdom reported experiencing emotional turmoil as they felt compelled to reassure their family members, particularly their partners and children, of their safety while at work (Montgomery *et al.* 2021: 3). Partners of healthcare workers often lived in a state of anxiety, fearing that their loved ones might contract COVID-19, especially given the known shortages of personal protective equipment (PPE) and inadequate staffing. Furthermore, researchers noted that "up to 40%" of healthcare workers meet and marry their partners in the workplace, suggesting that both partners and parents were significantly impacted by the challenges posed by the pandemic (Souadka, Essangri, Benkabbou and Amrani *et al.* 2020: 1).

The parents of healthcare professionals expressed significant concern for their children employed in high-risk settings. Consequently, many parents urged their children to remain at home rather than attend work (Razu *et al.* 2021: 3). Kackin *et al.* (2020: 6) noted that healthcare workers felt pressured to modify their genuine feelings regarding their jobs in order to safeguard the psychological health of their family members or to shield them from the harsh realities of their work environments.

Healthcare professionals expressed significant anxiety regarding the potential consequences of returning home, particularly the risk of transmitting the virus to their family members. The apprehension surrounding the possibility of losing cherished individuals to COVID-19 was especially pronounced among those with elderly parents suffering from pre-existing health conditions. One participant chose to withhold information from her parents about her involvement in the care of COVID-19 patients, motivated by a desire to prevent unnecessary worry (Kackin *et al.* 2020: 6). This decision to conceal the truth from loved ones may have jeopardized the trust within these familial relationships.

Robinson, Engelson, and Hayes (2021: 1254) underscored the difficulties encountered by female healthcare professionals, including heightened responsibilities related to family care, particularly for young children, as well as professional pressures and psychological strain, which were further intensified by existing gender disparities within their households and academic environments. Lockdown measures led to the closure of educational institutions and childcare services, thereby increasing the caregiving obligations of parents and families for their children, all while they were required to continue working and attending to patients afflicted with COVID-19.

The absence of affordable childcare options may have hindered healthcare workers in performing their duties, thereby endangering the welfare of families and societies. Additionally, there were no existing support mechanisms to aid these families. Robinson, Engelson, and Hayes (2021: 1254) strongly advocated that government and healthcare organizations formulate family-oriented policies that focus on enhancing childcare availability and providing greater support for female staff.

The existing literature has underscored the challenges faced by female employees. Although lockdown measures were instituted to mitigate the transmission of the virus and reduce morbidity and mortality rates, these measures adversely affected family well-being, particularly for children and elderly parents in need of care. The swift enforcement of these restrictions afforded healthcare workers minimal opportunity for advance planning, particularly for those lacking nearby extended family support. Souadka *et al.* (2020: 1) emphasized that healthcare professionals should not merely be viewed as frontline workers; rather, they ought to be recognized as integral members of society who fulfil various roles, including those of parents, spouses, and caregivers to their own parents.

Quarantine regulations hindered healthcare professionals from obtaining support and assistance from their family members regarding childcare. Souadka *et al.* (2020: 1) noted that the absence of childcare services led some healthcare facilities in Morocco to designate only one partner to care for COVID-19 patients if both were employed in the health care setting. This decision aimed to alleviate domestic pressures and mitigate the emotional instability experienced by children, due to the absence of both parents. The authors emphasized that solidarity with healthcare workers should extend beyond mere "clapping campaigns" to encompass tangible measures that alleviate the burdens faced by these professionals, who were subjected to significant stress, isolation, and emotional turmoil. In response, the Moroccan government implemented initiatives that included not only childcare but also social support for spouses and psychological interventions to safeguard these families and their future (Souadka *et al.* 2020: 1). Their proactive and innovative approach to these strategies deserves commendation, particularly in ensuring the stability of children when both parents are engaged in healthcare professions.

Setyowati, Natalia, Nuraeni, and Zakiyyah (2022: 33) utilized the Maslach Burnout Inventory Human Service Survey (MBI-HSS) to explore the correlation between family support and burnout among healthcare workers. Their findings revealed that 52.5% of Indonesian healthcare professionals reported receiving adequate family support. Among those who received such support, only 25% experienced burnout. Conversely, of the

participants who did not receive family support (47.5%), a significant 75.9% reported experiencing burnout (Setyowati, *et al.* 2022: 33).

This study highlights the value of family support for the psychological wellness of healthcare workers. Numerous healthcare workers faced difficulties in reconciling their familial responsibilities with their professional obligations amid the swift proliferation of the virus. It is indisputable that both healthcare workers and their families endured significant sacrifices during the COVID-19 pandemic and in the subsequent period, which adversely affected family dynamics and relationships. Therefore, it is essential that comprehensive interventions recognize that healthcare workers are not isolated entities; rather, they are integral components of a complex and interrelated system that encompasses their families. Consequently, these interventions must aim to enhance familial bonds.

2.4.4 Religion and spirituality within the context of the pandemic

Religion and spirituality are not completely independent phenomena, as spirituality has an integral function within religious institutions (Pargament 2023:214). de Diego-Cordero, Suarez-Reina, Badanta and Lucchetti *et al.* (2022: 1), noted that some researchers use the terms religion and spirituality interchangeably and hence conceptual clarity is hard to achieve as religion is often embedded in spirituality.

2.4.4.1 The role of religion in the lives of healthcare workers

Religion can be described as a set of systems or structures that include their own, unique beliefs, practices, ceremonies, rituals and experiences that are commonly practiced within a group or community (Pargament 2023: 212; de Diego-Cordero *et al.* 2022: 1; Schliesser 2024: 6; Cochrane 2024: 18). Religious practices are related to a belief in a superhuman being or beings or divine institutions. People may pray in different ways and those who affiliate with a particular religion, may congregate for worship and participate in such activities (Pargament 2023: 214).

Healthcare workers and their families realized that their only source of hope during the dark COVID-19 pandemic was their religious beliefs and practices. Amidst the uncertainty, suffering and loss of life, healthcare workers and their families clung to their

religious beliefs and a superpower for protection and comfort. Bangladesh and Iran for example, who are populated with people of the Islamic faith, found solace in their belief in God during the COVID-19 pandemic (Razu *et al.* 2021: 4; Karimi *et al.* 2020: 1274; Mirzaei, Mozaffari and Soola 2022: 1). In a study conducted in Iran, one participant shared that she wanted the tough days to end and wished that God could end the COVID-19 catastrophe (Karimi *et al.* 2020: 1274). Although Iran is a predominantly Islamic country (90%), there are minority groups who practice Christianity, Judaism or Zoroastrianism, with people of different religions, relying on their own beliefs for comfort and strength. To cope with the mental health sequelae of the pandemic, nurses who followed the Islamic faith, read the Quran and increased their prayers (Mirzaei, Mozaffari and Soola 2022: 1). Even in Malaysia healthcare workers relied on their religious beliefs and practices, as positive coping mechanisms during the COVID-19 pandemic (Francis, Ken, Han and Ariffin *et al.* 2021: 194). Healthcare workers prayed to God to deliver them from this calamity with, their deep-rooted faith in the “Almighty” giving them hope. Females were found to rely more on their faith as a coping strategy than males (Francis *et al.* 2021: 197).

In Ghana, Ofori *et al.* (2021: 7) reported that more than half (54.7%) of the healthcare workers in their sample had prayed more frequently and 27% reported that they sought more support and guidance from their religious leaders and religious organizations during the pandemic. Over two-thirds of the respondents reported that they had not sought assistance from psychologists, and they had also avoided news about COVID-19. This suggested that they coped because they had sourced religious support during the COVID-19 pandemic (Ofori *et al.* 2021: 7). Shechter *et al.* (2020: 5) reported that even in America healthcare workers had turned to their religion (23%) for comfort.

2.4.4.2 The role of spirituality in the lives of healthcare workers

Pargament (2023: 213) opined that human beings who pursue spirituality, have the desire for a deep connection with something sacred. Spiritual experiences create a feeling of transcendence and enable moments with the sacred. Moreover, spiritual practices increase a person’s motivation for virtue and goodness (Pargament 2023: 213). Additionally, spirituality can be described as the private experiences of individuals, often

within a religious structure and involves a person's emotions, motivation, and a sense of meaning (Schliesser 2024: 7). Spirituality is also defined in non-religious contexts, thus describing it as an individual's attempt to find meaning in life, an awareness of the nature mind and consciousness (Ongaro and Tantardini 2024: 534). Spirituality has also been described as the interrelationships with the self, others and the Universe, that is guided by a superior being (Chirico 2021: 151).

One of the main strategies for coping with stress during the pandemic included the use of positive spiritual practices. Mirzaei, Mozaffari and Soola (2022: 6) recommended that healthcare workers, be given the opportunity to discuss their beliefs and how spirituality can be implemented to manage stress. They added that Iranian healthcare workers, practised meditation as a spiritual tool to cope with stress. The researchers therefore suggested that healthcare leaders should focus on promoting positive spiritual coping mechanisms as a priority in their policy decisions. It was therefore important that spirituality be embedded within nursing curricula so that it can serve as a coping strategy (Mirzaei, Mozaffari and Soola 2022: 6). This suggests that the training of healthcare workers needs to be inclusive of spirituality and this training should continue into professional practice.

In America healthcare workers increased the time that they spent doing yoga (25%) and practiced mediation (23%) (Shechter *et al.* 2020: 5). Chirico (2021: 151) supported the recommendations of Mirzaei, Mozaffari and Soola (2022: 6) saying that spirituality had positive effects on the mental and physical health of an individual, especially during crises such as pandemics. Positive spiritual practices enhance a person's sense of purpose and the meaning of life, hope and optimism and can lower anxiety and depression levels and substance abuse, thereby contributing to increased wellness (Mirzaei, Mozaffari and Soola 2022: 6).

Prado, Robinson and Chao (2023: 1) for example, conducted a quasi-experimental study to investigate the effect of administering a "Synctuition" mindful meditation application, via a mobile phone on healthcare workers. The participants were instructed to listen to the binaural beats for 20-30 minutes every day for a month. The intervention was conducted to investigate whether it would reduce stress levels for healthcare workers.

The Cohen's Perceived Stress Scale was applied to measure stress levels. The researchers found that there was an apparent reduction in stress levels, from 19.46 ± 6.14 , at the pre-test to 5.79 ± 6.93 at the post-test ($P < .001$). They therefore concluded that mindful meditation applications were useful in reducing stress and encouraged healthcare workers to use them (Prado, Robinson and Chao 2023: 1).

During the COVID-19 pandemic healthcare workers across the globe practised different types of mindfulness that included: "transcendental meditation, body scan, mindfulness focused on breathing, mindfulness of thoughts, mindfulness of sounds, compassion, self-compassion, or heartfulness meditation". Other strategies included: "mindfulness with yoga, exercises, metallization, music, and or other cognitive behavioral interventions" (Benavides-Gil, Martinez-Zaragoza, Fernandez-Castro and Sanchez-Perez *et al.* 2024: 21). The researchers concluded that these spiritual practices had demonstrated efficacy in improving their mental health, as it reduced their stress levels and improved their emotional well-being (Benavides-Gil *et al.* 2024: 22). It was important to note that participation in spiritual activities by healthcare workers is significant, as it can lead to enhanced mental well-being and a focus on positive, healthy thoughts.

2.5 Conclusion

Chapter two explored the preparedness of healthcare institutions, in response to the pandemic, as well as the multifaceted effects of the COVID-19 pandemic on healthcare workers. This included the physical, psychological, social, and spiritual facets. Initially, a significant number of quantitative research studies emerged, however, as the pandemic evolved, global researchers shifted towards using qualitative methodologies to understand how healthcare workers were affected. The exigent nature of research during the pandemic resulted in numerous gaps within the existing literature. This study aims to address those gaps from a South African perspective.

By using the biopsychosocial-spiritual (BPSS) framework, as a guiding framework, it becomes evident that a holistic approach is imperative for addressing the physical, psychological, spiritual and social challenges confronting healthcare workers during periods of crisis. The analysis further indicated that spirituality significantly contributes to

enhanced coping mechanisms. The chapter that follows will provide a detailed exposition of the research methodology that guided this study.

The following quotation concludes this chapter:

“An individual has not started living until he can rise above the narrow confines of his individualistic concerns to the broader concerns of all humanity” (Martin Luther King, Jr.).

CHAPTER 3

RESEARCH METHODOLOGY

“Human beings, who are almost unique in having the ability to learn from the experience of others and are also remarkable for their apparent disinclination to do so”.

(Douglas Adams)

3.1 Introduction

Chapter two provided an extensive review of the global literature on the experiences of healthcare practitioners (workers) during the COVID-19 pandemic. It also provided a succinct summary of the readiness of healthcare institutions, and healthcare practitioners, for the COVID-19 pandemic. This chapter now focuses on the methodology used to guide the current study. Research methodology is the science of how research is conducted and identifies the pathway that the researcher used, to conduct the research and answer the research questions (Polit and Beck 2021: 801). This chapter describes the research design, paradigm, study population, sampling method and strategy. In addition, the methods for data collection and data analysis are explained (Fouche, Strydom and Roostenburg 2022: 82). Issues of trustworthiness and the ethical issues related to the study are also discussed.

3.2 Research Design

Polit and Beck (2021: 80) described a research design as a general plan for attaining answers to research questions. It provides a blueprint of activities or the architectural backbone of a study. It further assists the researcher in identifying measures to reduce bias, stipulates the frequency of data collection, guides the comparisons that will be made and describes the place of study (Polit and Beck 2021: 58). It follows a certain pattern or plan of action throughout the process of problem identification, details the strategies for collecting, organizing, analyzing and interpreting data, preparation of the research report and presentation. Moreover, it acts as a map that guides the researcher through the research process (Yin 2016: 83; Creswell and Creswell 2018: 352; Asenahabi 2019: 76;

Fouche, Strydom and Roestenburg 2022: 157; Polit and Beck 2021: 58; Khanday and Khanam 2019: 367; Leedy and Ormrod 2021: 457).

The most common research designs are quantitative, qualitative and mixed designs. Leedy and Ormrod (2021: 112) and Cropley (2022: 156) described the quantitative research design as a design that involves a “rigorous and controlled” investigation of phenomena. It utilizes statistical procedures to analyze data and yields numerical results. Conversely, the qualitative research design is concerned with holistically exploring phenomena, which aims to understand the whole, to gather rich in-depth data, especially in areas where there is little known about the topic (Leedy and Ormrod 2021: 28; Polit and Beck 2021: 471). The narratives of the participants are then thematically analyzed, interpreted and presented as categories or themes. Leedy and Ormond (2021: 292) described a mixed research design, as one, in which both quantitative and qualitative data is applied. Data is collected using the relevant data collection tool for each design and then analyzed using the appropriate data analysis method (Fouche, Strydom and Roestenburg 2022: 421).

3.3 Qualitative research method

“Qualitative research approaches, allow researchers to explore peoples’ experiences in detail, by using a specific set of research methods such as in-depth interviews, focus group discussions, observation, content analysis, visual methods and life histories or biographies” (Hennink, Hutter and Bailey 2020: 10; Polit and Beck 2021: 514; Leedy and Ormrod 2021: 114). Yin (2016: 9) further described qualitative research as a subjective logical approach, explaining that it seeks to explore the participants’ real-life experiences and situations, as well as their first-hand knowledge of the phenomena under investigation. It is therefore associated with constructivist (worldview) inquiries, as it emphasizes the complexity of humans and their ability to shape and generate their own experiences. In qualitative research, there is no single truth, all truth is relative and is constructed by the individual or society (Yin 2016: 9; Creswell and Poth 2018: 89; Asenahabi 2019: 81; Denzin and Lincoln 2018: 20; Leedy and Ormond 2021: 28; Khanday and Khanam 2019: 371).

A qualitative research design was adopted to guide the current study, which aimed to explore and understand the physical, psychosocial and spiritual challenges that confronted healthcare workers, at the forefront of the COVID-19 pandemic. At the onset of the study, COVID-19 was still a new phenomenon, and hence a qualitative approach was deemed most appropriate, to understand the experiences of these healthcare practitioners. These findings would be useful not only for the pandemic, but also for future pandemics and disasters. The flexible nature of qualitative research enabled the researcher to adjust to new information that emerged, thereby making it an appropriate approach (Polit and Beck 2021: 471).

The researcher was the main instrument for data collection, analysis and interpretation, as is characteristic within qualitative research investigations (Polit and Beck 2021: 55). The researcher applied the semi-structured interview guide to collect in-depth data from the healthcare practitioners, regarding their experiences during the COVID-19 pandemic. Furthermore, a focus group discussion guide was applied to collect innovative and relevant holistic wellness interventions from wellness experts. The study was conducted during the COVID-19 pandemic, hence the researcher adhered to all the safety protocols, such as maintaining a safe physical distance, wearing a mask and conducting online interviews, to maintain the safety of the participants, the patients and herself (Meyiwa 2020: 5). The researcher remained objective and adhered to all ethical standards during the research process.

The study aimed at obtaining rich in-depth data that led to a deeper, holistic understanding of the challenges experienced by healthcare practitioners during the COVID-19 pandemic. Moreover, the interviews allowed the researcher to collect such data. This data was subjective in nature, as they were first-hand accounts of the experiences of healthcare practitioners (workers) as they perceived them. As there is no single or absolute truth in qualitative research, the researcher interviewed a variety of categories of healthcare practitioners to get a more holistic understanding of their real-life experiences (Denzin and Lincoln 2018: 20). The aim was to examine issues that had not been fully explored through the lens of South African healthcare practitioners, who collectively were working in varied healthcare settings. It was also the first time that

healthcare practitioners had been exposed to a pandemic of this magnitude. It therefore became important for a study which would delve deeper into the experiences of various healthcare practitioners during the COVID-19 pandemic.

Given the magnitude of the effects of the COVID-19 pandemic and its impact on healthcare practitioners, a focus group discussion was held with a group of wellness experts. This was done to achieve the final objective in the study, namely, to provide recommendations for the psycho-social well-being of healthcare practitioners. A focus group discussion guide, aimed to gather comprehensive and nuanced data regarding effective wellness interventions. Objective 5 was “To make recommendations for a holistic physical, psychosocial and spiritual support program that will enable wellness during and post the COVID-19 pandemic.” The ultimate objective was to inform the development of a holistic wellness program tailored to restore and maintain the well-being of healthcare practitioners.

Leedy and Ormond (2021: 100) argued that qualitative research has a philosophical base that is interpretative, humanistic, and naturalistic and its interest lies in understanding the meaning of social interactions amongst those involved, within their natural environments. It is said to disclose the story or meaning behind numbers. It constructs a holistic picture from the narratives collected from the participants (Asenahabi 2019: 81; Khanday and Khanam 2019: 371; Fouche, Strydom and Roestenburg 2022: 41; Polit and Beck 2021: 472). An instrumental case study design was adopted for the current study, as it was deemed most suitable in understanding the experiences of various categories of healthcare practitioners, within a bounded area, during the COVID-19 pandemic, within their work environments.

3.3.1 Instrumental case study

A case study can be described as an in-depth exploration of a single unit (or small number of units or entities), which could be a person, a family, group, community, institution, organization, other social unit or any other phenomenon within a real life context or setting that a researcher is focusing on (Yin 2016: 107; Coombs 2022: 2; Creswell and Poth 2018: 153; Polit and Beck 2021: 483; Leedy and Ormrod 2021: 260). Coombs (2022: 1) further argued that a case study is used to produce an in-depth “understanding of a

contemporary issue or phenomenon in a bounded system". A case is further described as an entity that is defined within precise parameters, for a specific time and data can be collected using interviews, focus groups, field notes, records, autobiographies, videos, hospital records and other such methods. The value of a case study is that it is concerned with an individual case in its concrete context and the researcher gets close to the subject of interest in their natural settings. The effective identification of themes is crucial for generating descriptions of experiences of people (Coombs 2022: 20; Creswell and Poth 2018: 153; Yin 2016: 68).

An instrumental case study also assists the researcher to understand a phenomenon that he or she is interested in. A case is selected, because it can maximize what can be learnt about the case (Creswell and Poth 2018: 157; Polit and Beck 2021: 418). Stake (2006: 8), a prominent case study methodologist, stated that the instrumental case study is not only used to understand something, but provides clarity of an issue and refines a theory. The actual case is of secondary interest but has a supportive role in assisting one's understanding of something or learning about it, to its maximum. Case studies assist in examining phenomena, that were not thoroughly studied in its entirety and the researcher has the "desire" to explore and understand in relation to multifaceted and contemporary social phenomena (Stake 2006: 8; Creswell and Poth 2018: 415; Yin 2018: 5). Probing is involved; hence it may result in the emergence of unexpected relationships in data. The case has clear boundaries, and the researcher draws on multiple sources of information about the case. The data collected does not only include present experiences, but participants may also reflect on past experiences and situational elements that are appropriate to the issue being investigated. Its insights are also intended to inform other such situations or cases (Yin 2016: 103 and Creswell and Poth 2018: 189). The instrumental case relevant to the present study will be examined thoroughly in the following paragraphs.

3.3.1.1 Defining the case

The South African government embraced a primary health care approach to deliver cost-effective and efficient health care services to the citizens of its country. It therefore adopted the District Health System (DHS), as a vehicle to provide primary health care

services (Department of Health, National Health Act 63 of 2001: 41). South Africa has nine provinces, each of which are sub-divided into districts. The uMgungundlovu Health District was chosen as the instrumental case for the study. It is situated within the Province of KwaZulu-Natal and is one of 11 districts (Khumalo, Ntuli, Lutge and Mashamba-Thomson 2022: 1).

The district is geographically bound by “iLembe District Municipality to the east; the UMzinyathi District Municipality to the north-east; the eThekweni Metropolitan Municipality to the south-east; the Harry Gwala District Municipality to the south-west; and both the Okhahlamba-Drakensberg World Heritage Site and the UThukela District to the north. It consists of seven local municipalities, namely, Msunduzi; Impendle; Umshwathi; Mkhambathini; Mpofana; Umgeni; and the Richmond Local Municipality (Republic of South Africa, Cooperative Governance and Traditional Affairs 2023: 5). These clear boundaries of the case, are characteristic of the instrumental case study as the district being studied, was bound within these parameters.

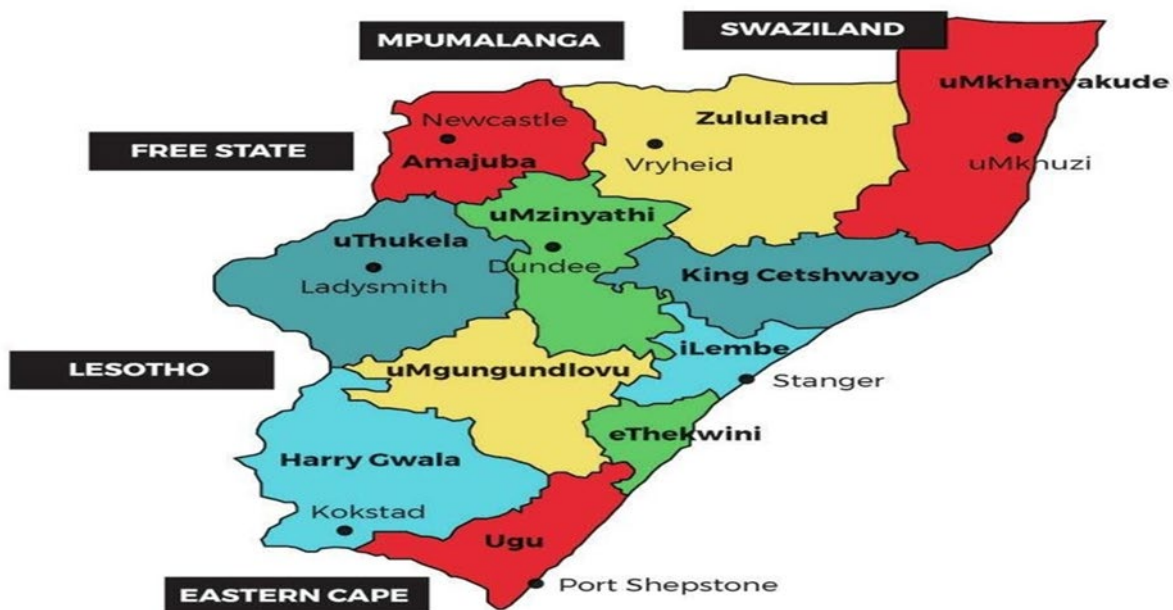


Figure: 3.1 Geographical Location: uMgungundlovu Health District in KwaZulu-Natal

The capital of the Province, Pietermaritzburg, is situated within the district. uMgungundlovu is home to over one million people and has 58% of the population living in urban areas, 38% in rural areas and 9% on small holdings (Republic of South Africa, Cooperative Governance and Traditional Affairs 2023: 7). A large portion of the population, (84.3%), residing within this district, do not have private medical insurance and are therefore reliant on public primary healthcare facilities and hospitals for their healthcare. According to the KwaZulu-Natal Provincial Department of Health, website, the uMgungundlovu District Health Office is situated at a central point, in Hoosen Haffejee Street (KwaZulu-Natal Department of Health 2024).

This district was further selected as the case, as the first COVID-19 patient, patient 0, was admitted to a tertiary hospital within this district. Healthcare practitioners were “thrown in at the deep end,” as they did not have the privilege of time, to adapt to these new work circumstances. As per the KwaZulu-Natal Department of Health website, uMgungundlovu Health District has nine hospitals that includes a tertiary, a regional, three district, three mental health and two specialized tuberculosis hospitals. In addition, there are 46 fixed clinics and 17 mobile clinics (KwaZulu-Natal Department of Health 2024). Private healthcare providers were not part of the study; hence they were not discussed.

The researcher’s interest was piqued when she and other healthcare practitioners were invited to attend a presentation that was held, on the 6th March 2020, at the tertiary hospital. Officials from the national, provincial and district health departments were in attendance and in collaboration with a higher education institution, presented information on the coronavirus, prevention of spread and the plans that the Department of Health had to control the number of COVID-19 cases, i.e. to flatten the curve (KwaZulu-Natal, Grey’s hospital 2020: 21). The strategy to flatten the curve, was to prevent an increase in COVID-19 patients, during which time healthcare institutions would have to ready themselves for the inevitable surge of patients.

The researcher works at a nursing campus that is located on the premises of this institution. Although the researcher does not work in the clinical practice area, she was expected to attend meetings at the tertiary hospital during the pandemic. As the pandemic progressed, she became more aware of the debilitating effects of the pandemic on the

global healthcare workforce. This coupled with the lack of research in the area, at that time, created the impetus for her to explore and understand the new and complex experiences being faced by South African healthcare practitioners. After the first case was reported, a surge in the number of new infections in the district occurred, strengthened the choice of the uMgungundlovu Health District, as the case for the study. The participants were recruited from a tertiary, a district and the field hospital, the uMgungundlovu Health District tracing team and emergency medical and rescue personnel from two bases in the district.

One additional motivating factor for selecting uMgungundlovu Health District as a significant case study was the researcher's intention to comprehend the experiences of healthcare practitioners within this particular geographic area, which was home to a prominent COVID-19 flagship hospital. Participants in this district were the initial recognized cohort of healthcare professionals responsible for attending to the first cases, admitted to hospitals in KwaZulu-Natal. This enabled the researcher to delve into the various dynamics within this rapidly changing health context and how they evolved and impacted on healthcare practitioners' well-being. This instrumental case study was relevant, in terms of shedding light on the healthcare system, within a bounded context in South Africa, thereby bringing to light important issues deserving of healthcare practitioners well-being, across SA. The diversity of healthcare contexts within this case, further allowed for richer data to emerge, in relation to the differences between rural and urban institutions and district and tertiary healthcare institutions.

During the COVID-19 pandemic there was a need to increase hospital bed capacity for patients, requiring isolation within a hospital, even though they were not seriously ill and did not require specialized care. Hence field hospitals were established (KwaZulu-Natal Department of Health; uMgungundlovu Health District 2020: 2). The Royal Agricultural Show Grounds (RASG) that was previously used for entertainment and exhibition events, was accessed by the Department of Health and major infrastructural changes were made, to equip it as a hospital. In addition, the field hospital was equipped with the basic necessary equipment and staff were employed to work in it. Other hospitals in the district were repurposed and renovated to accommodate COVID-19 patients (KwaZulu-Natal

Department of Health, uMgungundlovu Health District 2020: 2). The uMgungundlovu Health District strengthened and expanded its services to accommodate the COVID-19 tracer teams, which also included the school health nurses (KwaZulu-Natal Department of Health, uMgungundlovu Health District 2020: 9).

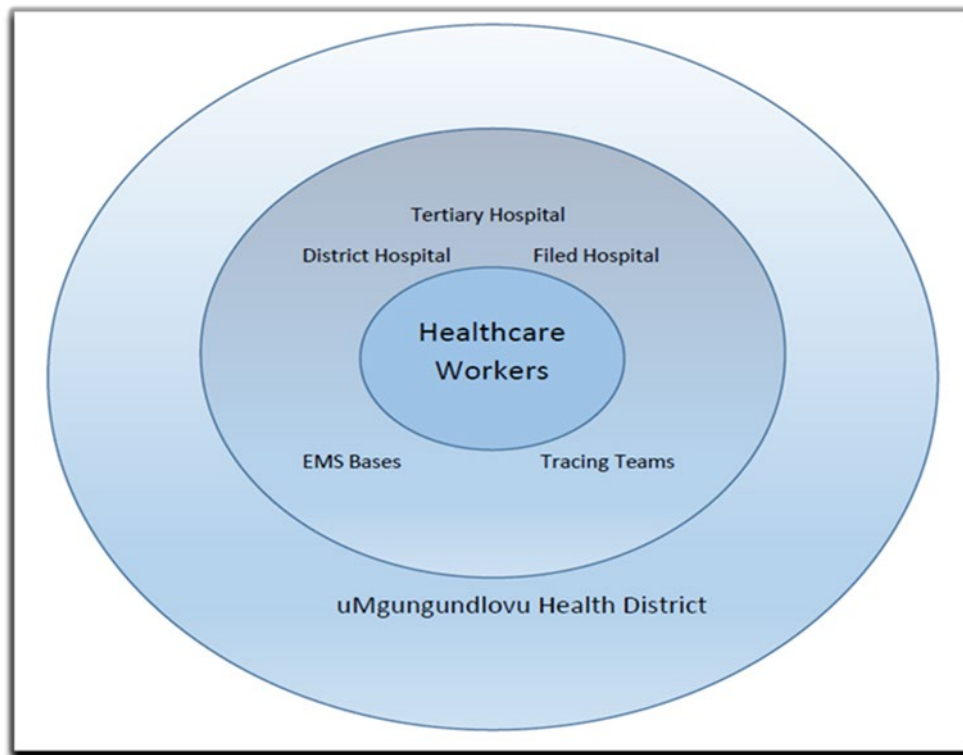


Figure 3.2: uMgungundlovu Health District: an instrumental case

Figure 3.2 illustrates the key components under investigation within the uMgungundlovu Health District. Specifically, it outlines the research settings and the research participants (healthcare workers) involved in the study. A more detailed discussion of the specific research sites and participants will follow in the subsequent sections.

3.3.1.2 The Healthcare System of South Africa

South Africa has a dual healthcare structure that primarily comprises a private sector, which is funded through private resources, and a public health sector, supported by state funding (Abbott and Sigamoney 2024: 11). The South African public healthcare system is based on a referral system. There are four levels of healthcare. Level 1 includes Primary

Health Care Clinics (PHCCs), Community Health Care Centres (CHCCs) and district hospitals. Level 2 services include regional hospitals, level 3 tertiary hospitals and level 4 central and specialized hospitals. As the level of care required by a patient increases, he or she is then referred to a healthcare institution, which offers a higher level of care. Hence patients that are critically ill and require mechanical ventilation cannot be managed at CHCCs or district hospitals. They are referred to tertiary level hospitals (KwaZulu-Natal Department of Health 2024). The country also offers healthcare services in urban and rural areas. Despite the attempts made by the South African government, to invest large amounts of the gross domestic profits (GDP) into healthcare and bridge the gap between rural and urban healthcare services, challenges still exist. Historically healthcare services in rural areas of South Africa, lack infrastructure and human resources (Willie and Maqbool 2023: 36). Knowledge of this referral system was crucial to understanding the experiences of healthcare professionals working within the instrumental case, the uMgungundlovu Health District, during the COVID-19 pandemic.

3.4 A paradigmatic point of departure

A paradigm represents a worldview, i.e. a way of looking at natural phenomena under study, that guides the researcher in terms of method and in ontological (how the world is seen), epistemological (how they know) and fundamental ways. It provides a framework or model that guides the research (Polit and Beck 2021: 796; Guba and Lincoln 1994: 107; Fouche, Strydom and Roestenburg 2022: 15).

An interpretive paradigm was applied to obtain a full understanding of the experiences of healthcare practitioners during the COVID-19 pandemic. Healthcare practitioners shared their personal experiences of working with COVID-19 patients and the effects that it had on them (Creswell and Poth 2018: 60). Bhattacharjee, Toleman, Rowling and Frederiks *et al* (2020: 19) argued that many researchers believe that the most suitable way to study social order, is by subjective interpretation of the participants' subjective perspectives. The data is normally obtained through interviews and adopts an inductive approach. It begins with the observed data about the phenomenon being studied and is heavily reliant on subjective qualitative data (Bhattacharjee *et al*. 2020: 34).

Bhattacharjee *et al.* (2020: 99) further advocated for the interpretive paradigm, saying it is moulded by “human experiences and social constructs” (ontology) that can be most suitably studied within its “socio-historic” setting by integrating the subjective interpretations of its numerous participants (epistemology). The researcher makes an interpretation of the participant’s contribution through a “sense making process” rather than through testing a hypothesis (Bhattacharjee *et al.* 2020: 99). Hence an interpretive paradigm was adopted.

3.4.1 The interpretive research paradigm within the current study

The interpretive research paradigm was invaluable within the context of the current study. The researcher applied the interpretive paradigm to the study, by identifying the research problem and setting the research objectives. The literature reviewed was used to guide the development of the interview guide.

The interpretive paradigm is premised on the notion that social phenomena are studied in their natural settings and that participants should fit these requirements. Natural settings refer to a person’s place of work, living or social environment. Participants of the study need to meet the inclusion criteria, set for the research sample which will enable the researcher to collect the relevant data to answer the research questions and achieve the study objectives (Bhattacharjee *et al.* 2020: 101). In this study, healthcare practitioners located within the health setting of the identified case, allowed for an inquiry within the natural environment. The uMgungundlovu Health District was selected as the instrumental case, as the first patient to be diagnosed with COVID-19 was admitted in this health district. This area in addition became a hotspot, as a rapid number of COVID-19 patients began seeking urgent hospitalization. The research sites included the tertiary hospital, the district hospital, field hospital, two EMRS bases and the tracer teams working in the district so as to get a holistic picture of the case.

Four groups of healthcare practitioners (doctors, professional nurses, enrolled nurses and paramedics) were purposively selected based on their fulfilment of the pre-defined inclusion criteria, ensuring their suitability for the specific aim and scope of this study. These participants were all directly involved in caring for COVID-19 patients.

The fifth participant sample comprised wellness experts, selected via purposive sampling due to their adherence to predetermined criteria relevant to the focus group's objective. These experts possessed demonstrable expertise in the development, implementation, monitoring, and evaluation of wellness programs. Crucially, their experience extended to the COVID-19 pandemic, providing them with first hand observations of the pandemic's impact on healthcare practitioners working on the front lines.

Furthermore, the interpretive paradigm also requires that the researcher builds a relationship of trust with the participants, in order to collect accurate, in-depth and rich data whilst constantly observing them (Bhattacharjee *et al.* 2020: 102). The researcher arranged, with the relevant gate keepers to first meet the potential participants from the first four samples (doctors, professional nurses, enrolled nurses and paramedics) and share the details of the study with them. In certain cases, such as with the field hospital and tracer teams, the manager assisted the researcher in establishing telephone communication with potential participants. A relationship of trust was built. Thereafter appointments were made to interview the interested participants using WhatsApp video chats, WhatsApp telephone calls, telephone calls and face-to-face interviews.

Data was collected through virtual methods, as most times interviews were conducted during the off-duty time of the participants. The participants attended the virtual interviews from the comfort and privacy of their own home. Some participants were interviewed at their place of work away from patient areas, to adhere to social distancing protocols. Interviews occurred in between surges thereby enabling same. The researcher adhered to the schedules as arranged by the participants and herself. However, there were times when the participants requested a change in appointment times, due to their overload of work or the stress being experienced during surges of infection rates. The researcher made necessary adjustments, which the participants valued, as the researcher demonstrated a strong commitment to their safety and well-being. Healthcare practitioners therefore became more comfortable to share their personal experiences of the COVID-19 pandemic.

To gather data from the fifth sample group of wellness experts, the researcher collaborated with the acting district manager to recruit the initial few participants.

Thereafter the researcher used snowball sampling to recruit more wellness experts. A focus group discussion was conducted via Microsoft Teams (MST) to collect data from this group of wellness experts. The focus group session centered on the various holistic wellness interventions that could support the well-being of healthcare practitioners.

The researcher's role is critical within the context of the interpretive paradigm, as he or she is actively involved in collecting the data. He or she embeds themselves within a given social context. Rigor is also achieved in terms of a systematic and a transparent approach to data collection (Bhattacharjee *et al.* 2020: 105). The researcher used two data collection tools. A semi-structured interview guide, (Annexure: 14) was applied for the four samples of healthcare practitioners (doctors, professional nurses, enrolled nurses and paramedics) to systematically interview each participant. Participants shared their own (subjective) experiences, made sense of their experiences and how it impacted them physically, psychologically, socially and spiritually. The healthcare practitioners also shared how their work with COVID-19 patients, had implications for their families. A good rapport was built with the participants, which enabled them to share their experiences, thoughts and emotions as openly and truthfully as they could.

To gather data from the fifth sample group, a focus group discussion guide (Annexure: 17) was used to facilitate the group discussion. The data collected from this group focussed on their knowledge of various biopsychosocial and spiritual wellness interventions that could support the healing and wellness of healthcare practitioners.

The researcher did not let her own prejudices and preconceived ideas, skew the interpretation of data (Bhattacharjee *et al.* 2020: 102). During the data collection phase, the researcher remained non-judgemental and viewed the data collected as the subjective experiences of the healthcare practitioners. The researcher immersed herself in the data and searched for answers, which were specific to the research questions. During the data collection phase, the researcher observed common threads in the data that could guide emerging themes.

The qualitative data analysis for this study employed distinct approaches for the focus group and healthcare practitioner interviews. This methodological choice was driven by the differing objectives of each data collection method. The interpretation process was

not linear (Hermeneutic circle), it followed a back-and-forth process to merge pieces of text, with the social phenomenon, in order to construct a theory. This repetitive process continued until data saturation occurred. This was when participants were sharing the same experiences and information (Bhattacharjee *et al.* 2020: 102). The researcher sought to understand the full essence of the healthcare practitioners subjective experiences and worldviews, interpret them holistically by making sense of them and give meaning to the data (Bhattacharjee *et al.* 2020: 102; Alharahsheh and Pius 2020: 42). The researcher did this by consciously engaging with the data, interpreting the data line by line, then in paragraphs. Thematic analysis was used to guide the analysis of the data. The analysis of the data was also a back-and-forth process, as emerging themes and sub-themes had to be continuously amended, to portray a true reflection of the exact experiences of the participants. A comprehensive analysis of the collected data from healthcare practitioners was undertaken by the researcher in conjunction with an independent coder to ensure rigor and validity.

The same process of thematic analysis was applied to data, collected from the focus group discussion. To enhance the trustworthiness of the data the same independent coder was used to strengthen the rigor of the interpretation.

During the interviews with the healthcare practitioners the researcher made field notes and was mindful of the changes in the expression or emotions of the healthcare practitioners and took note of those, who became emotional during the interview (Bhattacharjee *et al.* 2020: 102). The flexibility of the research design allowed the researcher to step back and allow the participants (healthcare practitioners) time to compose themselves, when they became emotional. At times interviews were rescheduled. The participants were afforded the opportunity for catharsis and debriefing at the end of the interview.

Following the completion of interviews with healthcare practitioners, and the analysis of this data, a focus group discussion with wellness experts was conducted. This was to develop the wellness interventions to support the program linked to the final objective. This process guided the researcher in the development of a holistic wellness program, for healthcare practitioners (Chapter five and six).

3.5 Study setting

Polit and Beck (2021: 803) asserted that data can be collected in a variety of settings and can include one or more sites. The research site is the overall location for the study. Research settings for the interpretative paradigm are normally naturalistic, as they seek to gather data from people who are as close, as possible to the phenomenon under study (Bhattacharjee *et al.* 2020: 101; Creswell and Poth 2018: 35).

The study was conducted at research sites that were all within the “case”, the uMgungundlovu Health District (KwaZulu-Natal Department of Health 2024). The tracing and testing teams for COVID-19 were employees of the uMgungundlovu Health District (KwaZulu-Natal Department of Health, uMgungundlovu Health District 2020: 9). They included all categories of nurses. There was no fixed site for the nurses as they travelled within the district to homes of the communities, schools, business premises and other areas, where their services were required by the public. The field hospital with all the necessary equipment was set up at the Royal Agricultural Showgrounds (RASG) and nurses were also allocated to work in this setting (KwaZulu-Natal Department of Health, uMgungundlovu Health District 2020: 2). The managers, from varied health programs within the District Health Department managed the tracing and testing teams as well as the field hospital at the RASG.

The tertiary (“Hospital 1”) and one district hospital (“Hospital 2”) that are both public healthcare institutions, were two of the research sites. According to the KwaZulu-Natal Department of Health, website, “Hospital 1” caters for the Western half of KwaZulu-Natal that includes five health districts with a population of about 4.5 million people (KwaZulu-Natal Department of Health 2020). The hospital only sees patients on a referral basis from district and regional hospitals. It is a 530 bedded hospital and has a large intensive care unit and a dedicated isolation unit for infectious diseases. Early in 2020, the Department of Health shared on its website that “Hospital 1” was designated as the flagship hospital for COVID-19 positive patients in the area.

On the 5th of March 2020, the first COVID-19 positive (Patient 0) South African patient, was admitted to the tertiary hospital and received care in the isolation unit (KwaZulu-Natal

Department of Health 2020). It was therefore significant to include this hospital in the study.

“Hospital 2” sees patients on a referral basis, from the various clinics and patients who are direct walk-ins or who are self-referred. They also refer patients that are beyond their scope of management, such as patients requiring mechanical ventilation to “Hospital 1” (KwaZulu-Natal Department of Health 2020). This is a 320 bedded hospital that was built in the 1970s, to cater for the health needs of the then small communities, living in the Northern areas of the city. According to the uMgungundlovu Health District report (KwaZulu-Natal Department of Health, uMgungundlovu District Health plan 2015-2016: 31), the hospital caters for a population of almost half a million people (479 524). In reality it however provides healthcare for a greater number than mentioned. At that time, the report highlighted that there were planned strategies to decrease the high foot traffic and overload of that institution (KwaZulu-Natal Department of Health, uMgungundlovu District Health plan 2015-2016: 31). During the COVID-19 pandemic the hospital also had to open wards to accommodate COVID-19 patients under investigation and those who were positive with COVID-19. In lieu of the fact that this institution also had to cater for COVID-19 patients with fewer resources and specialized staff and were not on the original departmental plan to admit such patients, it became important, to include “Hospital 2” in the study. It was also envisioned that lots of patients from the public would flock to this hospital, for COVID-19 tests, as the public were aware that they could not go directly to a tertiary healthcare institution.

The Emergency Medical Rescue Services (EMRS) are managed by a district manager. These health professionals have their own independent human resource structures, but they were all employees of the KwaZulu-Natal Department of Health. Participants were recruited from the base at “Hospital 1” and the base in the Umgeni municipal area (KwaZulu-Natal Department of Health 2020). During the reporting phase of this study, these two bases will be anonymized. All the data will be reported collectively in terms of the different sites within the case.

3.6 Research population

A research population refers to all components that could be individuals, objects or substances who meet certain selected criteria or characteristics that would qualify for them to participate in a research study. Qualitative research populations normally identify groups who have experienced a phenomenon, culture or process that is being studied (Gray, Grove and Sutherland 2017: 124; Leedy and Ormrod 2021: 272; Fouche, Strydom and Roestenburg 2022: 228; Polit and Beck 2021: 497).

The target population for the current study were healthcare practitioners, that included medical doctors of all categories, professional nurses, enrolled nurses and paramedics who worked at the forefront of the COVID-19 pandemic, in the uMgungundlovu Health District. Due to the study being an instrumental case study, the researcher was only interested in the population of these healthcare practitioners in this district who had first-hand experience working with COVID-19 patients.

Table 3.1 Healthcare practitioners in the uMgungundlovu Health District

Category of healthcare practitioners	Geographic location	Number
Medical doctors	uMgungundlovu Health District	589
Professional nurses	uMgungundlovu Health District	3691
Enrolled Nurses	uMgungundlovu Health District	1137
Paramedics	uMgungundlovu Health District	313
TOTAL		5730

3.7 Sample

A sample is a smaller selection or sub-section of the research participants from a research population. It is not realistic to try and study a huge number of participants hence a sample of that population is selected. A sample means that certain eligibility criteria are met. The researcher therefore applies certain inclusion and exclusion criteria to ensure accuracy, in order to determine who would participate in the study. The “key characteristics,” of a

sample closely resembles, that of the research population (Leedy and Ormrod 2021: 272; Fouche, Strydom and Roestenburg 2022: 12).

Unlike quantitative research, qualitative research does not focus on recruiting a large sample. Samples are generally smaller and are focused on the quality of the in-depth data that is gathered from the participants (Fouche, Strydom and Roestenburg 2022: 380; Polit and Beck 2021: 498; Leedy and Ormrod 2021: 272). The sample size in qualitative research is adequate once data saturation occurs, which is also applicable when using an instrumental case study approach. This occurs when new recruits to the study repeat information that were already collected from previous participants and yields no new data (Gray, Grove and Sutherland 2017: 485; Fouche, Strydom and Roestenburg 2022: 380; Polit and Beck 2021: 55)

The first four samples for this study included four categories of healthcare practitioners. The initial sample numbers and the final sample sizes are reflected in Table 3.2.

Table 3.2 Samples and sample size

Category of healthcare practitioners	Initial sample size	Final number of participants per sample
Sample 1: Medical doctors	10	21
Sample 2: Professional nurses	15	21
Sample 3: Enrolled nurses	10	10
Sample 4: Paramedics	10	13
Total	45	65

3.7.1 Sample 1: Medical doctors

Medical doctors in South Africa obtain an undergraduate degree which is a Bachelor of Science in Medicine and Surgery. They are required to complete a prescribed period of internship and community service, before they practice as medical officers after graduation (Health Professional Council of South Africa 2018: 12). Thereafter they may then specialize in different fields. All doctors, irrespective of their category, who are

practicing in South Africa are mandated to register with their statutory body and pay an annual licensing fee (Health Professional Council of South Africa 2018: 12).

It was important to include all categories of doctors in the study, as they were managing patients at their bedsides, often performing high risk procedures such as intubation, which increased their risk of becoming infected with COVID-19. Doctors in the current study had a wealth of experience and knowledge, as some were rotated between “Hospital 1” and “Hospital 2”, whilst others had previously worked in other districts and provinces. There were also doctors who had worked in rural hospitals during the pandemic. These participants shared their experiences in these different contexts, thereby adding to the richness of the data collected. The sharing of past experiences is common in instrumental case studies. For the purpose of this study the participants were selected as per the inclusion criteria below:

Inclusion criteria:

- Medical doctors of all categories who were working with patients under investigation and positive cases of COVID-19.
- Medical doctors who were willing to participate.
- Those who worked in high-risk areas: COVID-19 ICUs, fever tents, field hospitals, isolation wards, wards with patients under investigation for COVID-19.
- Medical doctors working within the public sector in the uMgungundlovu Health District.

Exclusion criteria:

- Medical doctors who are working in the private sector were excluded from the study.
- Medical practitioners operating beyond the boundaries of the uMgungundlovu Health District during the period of the study.

The final sample of doctors was twenty-one.

3.7.2 Sample 2: Professional nurses

Professional nurses in South Africa are often referred to as registered nurses. These two designations are often used interchangeably. The professional nurse qualification is continuously evolving, with new nursing programs, hence there are changes in the names of the various categories of nurses. Professional nurses need to be registered with the statutory body for nurses, i.e. the South African Nursing Council (SANC), as licensed practitioners (Republic of South Africa, South African Nursing Council, Nursing Act 33 of 2005: 34). Currently a greater number of this category, work as general practitioners and others specialize in various fields of clinical nursing practice, such as critical care nursing (CCN) or intensive care nursing (ICU), trauma nursing and child nursing science etc. Professional nurses have independent, dependent and inter-dependent roles and functions; hence they have a broad scope of practice (South African Nursing Council 2022: 17). The type of work that nurses do, placed them at a higher risk of COVID-19 infection and therefore it was imperative for this category of nurse to be included in the study. For the purpose of this study, professional nurses had to meet the inclusion criteria below.

Inclusion criteria:

- Professional nurses working on day duty.
- All categories of professional nurses who were willing to participate.
- Those working in high-risk areas and those who had worked in these areas: COVID-19 ICUs, fever tents, field hospitals, isolation wards, wards with patients under investigation for COVID-19, field hospitals, tracing and testing teams in mobile units.
- Professional nurses working in the public sector in the uMgungundlovu Health District.

Exclusion criteria:

- Professional nurses on night duty.
- Professional nurses working in the private sector.
- Professional nurses working outside the uMgungundlovu Health District.

The final sample for the study was twenty-one.

Professional nurses working at both the hospitals and the field hospital rotated between day and night duty, hence they were able to share their experiences, with regards to both shifts. Furthermore, there was a limited number of nurses on night duty and trying to access the nurses at night, would have infringed on their work activities. Moreover, COVID-19 restrictions prevented accessibility to the hospital at night. The data collection was conducted over a period of twelve months.

3.7.3 Sample 3: Enrolled Nurses

Enrolled nurses are educated and trained for a period of two years in a legacy nursing program, at nursing schools that were accredited by the South African Nursing Council (SANC) (SANC: 1993). They also need to be registered with SANC and pay an annual fee to practice legally within the Republic of South Africa. They are also referred to as staff nurses. These nurses have learnt basic nursing care skills and practice directly or indirectly under the supervision of the professional nurse. They perform nursing duties that were planned and delegated to them, by a professional nurse (Republic of South Africa, South African Nursing Council, Nursing Act 33 of 2005: 34). Enrolled nurses are actively involved in providing basic nursing care for patients at the bedside. This meant that during the COVID-19 pandemic, enrolled nurses were actively involved in directly caring for the sick patients. Some were also involved in the district team that went out to communities, to trace contacts and test for COVID-19. Others worked at the field hospital at the Royal Agricultural Show Grounds (RASG). During the pandemic, these nurses were redeployed to the different research sites as the need arose, such as to “Hospital 1” and “Hospital 2”. They shared their varied experiences which was valuable within an instrumental case. For the purpose of the study, participants needed to meet the inclusion criteria below.

Inclusion criteria:

- Enrolled nurses working on day duty.
- Enrolled nurses who were willing to participate.

- Enrolled nurses working in high-risk areas: COVID-19 ICUs, fever tents, field hospitals, isolation wards, wards with patients under investigation for COVID-19, field hospitals, tracing and testing teams in mobile units.
- Enrolled nurses working in the public sector in the uMgungundlovu Health District.

Exclusion criteria:

- Enrolled nurses on night duty.
- Enrolled nurses working in the private sector.
- Enrolled nurses working outside the uMgungundlovu Health District.

Ten enrolled nurses participated in the study.

Enrolled nurses who worked at both the hospitals and the field hospital rotated between day and night duty. Hence, they were able to share their experiences on both these shifts. Furthermore, there is a limited number of nurses on night duty and trying to access the nurses at night would have infringed on their work activities. The data collection was conducted over a period of twelve months hence the researcher was able to interview enrolled nurses, who had been exposed to both day and night duty shifts.

3.7.4 Sample 4: Paramedics

Paramedics in South Africa are healthcare professionals who act as first responders to emergency calls. They are therefore called emergency care personnel (Sobukwa and Christopher 2019: 2). Emergency care personnel or paramedics are registered with the Health Professionals Council of South Africa. Paramedics usually work in emergency medical and rescue care services (EMRS) in ambulances. The scope of practice of the paramedics varies depending on their training. Paramedics may be trained in Basic Life Support (BLS) Intermediate Life Support and Advanced Life Support (Sobukwa and Christopher 2019: 3). They can provide first aid care but with more advanced training, can offer other advanced lifesaving services to patients in an emergency, such as the intubation of a patient for mechanical ventilation. They may undertake many short courses and pursue courses at universities to advance their careers and scope of practice (Sobukwa and Christopher 2019: 3).

Paramedics were selected to participate in the study, as they were the first responders during the COVID-19 pandemic and were the first to transport a COVID-19 patient in South Africa. This meant that the paramedics had direct contact with patients sick with COVID-19 and the patients' family members in their homes. These EMS (emergency medical service) personnel were also responsible for transporting critically ill patients from one hospital to another, in the confined space of an ambulance, for long periods of time. This direct contact therefore placed paramedics at high risk of infection, as they were the category of healthcare practitioners who had the most frequent contact with family members, of patients sick with COVID-19.

Inclusion criteria:

1. Paramedics who were directly involved in transporting and managing COVID-19 patients.
 - Paramedics who were willing to participate.
 - Paramedics within the public sector in the uMgungundlovu Health District.

Exclusion criteria:

- Paramedics who were not working in the public sector in the uMgungundlovu Health District.

A total of thirteen paramedics participated in the study.

3.7.5 Sample 5: Wellness experts

Based on the final objective of the study and linked to the data emerging from the healthcare practitioners' interviews, a focus group discussion was held to explore various holistic wellness interventions that could support healthcare practitioners in restoring and enabling their wellness. Hence the fifth sample of wellness experts was recruited to participate in a focus group discussion. A focus group discussion is a qualitative research data collection technique, which typically involves between three and fifteen participants (Fouche, Strydom and Roestenburg, 2022: 361; Polit and Beck, 2021: 515). These discussions are advantageous as they facilitate the rapid emergence of rich and diverse data (Fouche, Strydom, and Roestenburg, 2022: 363).

Guided by the principles of intervention research, a group of twelve participants who were not part of the initial sample of healthcare practitioners were purposively recruited as experts in wellness related issues (Fouche, Strydom, and Roestenburg 2022: 468; Olsson, Kapetanovic, Hollertz, Starke, and Skoog 2022: 647; Jepson, Dawson, Greasley-Adams, Biggs and Bowes 2023: 2). Moreover, recognizing the multidisciplinary nature of wellness, wellness experts were recruited from diverse backgrounds as follows: nurse managers (n=2), a medical doctor (manager) (n=1) and paramedics (n=2) (management roles).

Furthermore, a health promotion manager (n=1), a dietician (n=1), a social worker (n=1), a physiotherapist (n=1) and an occupational health nurse (n=1) were included to ensure a more holistic approach to the development of the wellness program. Nurse academics (n=2) with expertise in program development and qualitative research methodology were also invited to participate in the focus group. Both nurse academics possessed Doctoral qualifications. The heterogeneity of the group fostered a robust exchange of perspectives and the specialized knowledge drawn from various disciplines and experiences contributed to a holistic program. The inclusion criteria for this sample is listed below as follows:

Inclusion criteria

The participants were purposively sampled if they were a:

2. **Wellness expert:** a social worker, dietician, physiotherapist, occupational health nurse, psychologist, occupational therapist or a health promotion manager who were involved in planning, implementation, monitoring and evaluation of wellness programs.
3. **Manager:** who worked during the COVID-19 pandemic with knowledge, experience and expertise in the development, implementation, monitoring and evaluation of wellness programs (nurse, doctor or paramedic).
4. **Academic:** with a doctoral degree with knowledge, experience and expertise in qualitative research, program development, implementation, monitoring and evaluation (nurse, doctor or paramedic).

5. **Healthcare professional involved in the coordination of training:** at a provincial, district or facility level (nurse, doctor or paramedic), who had knowledge and experience in program development, implementation, monitoring and evaluation.
6. All participants needed to be willing to participate and join an MS Teams meeting.

Exclusion criteria:

- Healthcare professionals who did not possess sound knowledge, experience and expertise in program development, implementation, monitoring and evaluation.

Table 3.3 provides an overview of the role, experience and position of each member of the expert focus group.

Table 3.3: Expert focus group members (FG)

Role	Experience and position
Manager	Health promotion: Program manager-nurse
Manager	Health promotion-Dietician
Academic	Nurse academic-Quality management, research and program development (Doctorate)
Academic	Nurse academic: Research and development programs/guidelines/models (Doctorate)
Manager	Employee health and wellness: Manager-occupational health nurse
Social worker	Trained wellness practitioner: Social worker
Physiotherapist	Trained yoga, mindfulness and meditation instructor: Physiotherapist
Manager	Management: Assistant Nurse Manager
Manager	Management: Nurse Manager
Manager	Management: Medical doctor
Manager	Management: Paramedic: Training
Manager	Management: Paramedi

For the purpose of this phase of the study and to maintain anonymity of the experts and confidentiality of the interventions shared by the participants for the wellness program, the participants will be referred to as FG.1 to FG.12.

3.8 Overview of the sampling process

There are two main groups of sampling, namely, probability and nonprobability sampling procedures. Polit and Beck (2021: 266) argued that probability sampling involves a random selection process, where each element in the research population has an equal chance of being selected to participate in the sample. Non-probability sampling does not necessarily produce a sample representative of the population (Polit and Beck 2021: 263).

For this instrumental case, non-probability sampling was found to be the most suitable type, as it guided the recruitment of participants, who were able to share information on the complex phenomena being explored. Participants were purposively selected to participate in the study. With purposive sampling the researcher decides which participants meets the inclusion criteria, to participate in his or her study. She or he targets prospective participants who are experts in the field or have knowledge and experience of the phenomena being studied (Polit and Beck 2021: 263).

Participants were purposively selected, as per the inclusion criteria presented above. The ethical integrity of this study was paramount. Specifically, all participants were recruited on a voluntary basis, no coercive tactics or undue influence were exerted at any stage of recruitment or data collection, thereby safeguarding the autonomy and well-being of all individuals involved.

The participants were from the uMgungundlovu Health District, from the COVID-19 tracer teams and the Royal Agricultural Show Grounds field hospital, “Hospital 1”, and “Hospital 2”. The paramedics were from two bases in the district. Doctors and professional nurses who met the inclusion criteria were recruited for the study from the district and tertiary hospital. They had experience in a variety of COVID-19 clinical placement areas such as the intensive care unit, isolation wards or units (both adult and paediatric), COVID-19

tents and caring for patients under investigation for COVID-19. These participants however were redeployed to work in other medical settings, as the need arose, hence they were able to share many different experiences. Paramedics were involved in transporting COVID-19 patients in ambulances, within the district from their homes to the hospital and also performed inter-hospital transfers.

Before the data collection process commenced the heads of the various departments, within the respective institutions, were contacted via electronic mail and through telephone calls. The relevant documents were then sent to them, to circulate to the healthcare practitioners under their management. Accessing the participants for the different categories of the sample differed slightly. Hence this will be discussed individually. However important aspects that were common to all categories of the sample will be presented in detail holistically. The study was explained to every participant, and each were given a letter of information (Annexure: 12), which they had to read before the study commenced. Once they were satisfied that they understood the contents and wished to voluntarily participate, they signed the informed consent (Annexure: 13) and returned this to the researcher, on person or via electronic mail. The researcher stored the consent forms separately from the transcripts and other material related to the study. The process of maintaining confidentiality and anonymity throughout the research process was also explained to every participant. The participants were also informed, that they could withdraw from the study at any time if they wished to do so without any prejudice. This process was identical for all participants irrespective of whether the researcher met with them in a face-to-face meeting or had online interviews.

3.8.1 Medical doctors

The medical manager of “Hospital 1” granted the researcher permission to circulate the letter of information and the consent forms to healthcare practitioners through the Heads of Departments. The hospital request was that as far as possible, online platforms be used for the recruitment and interviewing of the participants. The consultant for medicine, assisted the researcher by facilitating the dissemination of the research material, to all other Heads of Departments via electronic mail. Due to the hospital having no safe areas, to meet with the doctors, the consultant in charge of the intensive care unit arranged for

the researcher to address the doctors in the ICU lecture room, which was away from the patient area. Two groups of doctors were addressed on two separate occasions and recruited to participate in the study. Appointments were made with the doctors to interview them.

The medical manager from “Hospital 2”, granted the researcher permission to meet with the doctors working in the COVID-19 tent. These doctors rotated throughout the hospital. The recruitment process occurred during a COVID-19 surge. Consequently, the hospital had reduced foot traffic into the hospital. Due to the risks involved the researcher was not allowed to visit the doctors within the hospital building. The researcher was however, allowed to meet with the doctors as arranged for a very short period in the COVID-19 screening area of the hospital. The study and the process were explained to the doctors and those who were willing to participate in the study, furnished the researcher with their contact details. The letter of information and consent forms were emailed to the doctors. They returned their signed consent forms via electronic mail. Appointments were made with the doctors for interviews to be conducted virtually.

3.8.2 Professional nurses

The nursing manager in “Hospital 1”, allowed the researcher to meet with the intensive care nurses for 15 minutes, away from the patient area and explain the study to them. Permission was also granted for the researcher to access other prospective participants via the operational managers in the isolation wards, emergency departments and COVID-19 tents. Operational managers therefore assisted in the recruitment process. The researcher met with the participants who were willing to participate in the study, in their respective departments, away from the patient areas and explained the research process to them. Those who were working within the COVID-19 demarcated restricted areas in the hospital, had to be contacted via telephone. Appointments were then made with each of the individuals to interview them virtually, which they preferred.

The nursing manager of “Hospital 2” granted the researcher permission, to meet with the nurses in the gateway clinic. The researcher was instructed that she had only fifteen minutes to meet with the nurses, secure the contact details of the nurses and contact them after hours, as the nurses were very busy and working in high-risk areas. The letter

of information and consent forms were sent to the participants via electronic mail. The prospective participants were contacted telephonically after hours. The study was explained to them and appointments were made to interview those who volunteered to participate. Most consent forms were returned via email and a few were returned in person.

The researcher accessed the two professional nurses working in the uMgungundlovu, tracing teams via the acting district manager. It was not possible to have face-face meetings, as the nurses travelled the entire day to schools and remote areas. They were sensitized to the study, by the manager and were aware that they would be contacted by the researcher. The manager sought permission from the prospective participants to share their contact details with the researcher. The researcher made contact via telephone calls with the nurses, explained the research process to them. The letter of information and the consent form were forwarded via email to the participants. The two participants who were recruited for the study, returned their consent forms via email. Appointments were scheduled for the interviews.

3.8.3 Enrolled nurses

The enrolled nurses were purposively sampled from nurses who worked in the field hospital at the Royal Agricultural Show grounds, in the uMgungundlovu Health District tracing team and "Hospital 1". Due to the nature of the work of enrolled nurses, it was not feasible to meet with them in person and explain the study to them. The acting district manager played a crucial role in facilitating the research process by informing potential participants about the study and securing their consent for the sharing of their contact information with the researcher. Following this, the researcher reached out to the enrolled nurses at the field hospital and the tracing teams via a telephonic call. Each prospective participant was provided with an explanation of the study, and the information letter along with consent forms which were sent to them via email, inviting them to participate in the research study. Those who expressed their willingness to participate, reviewed the information letter and submitted their consent forms electronically to the researcher. Subsequently, virtual interviews were scheduled with these participants.

3.8.4 Paramedics

The Emergency Medical Rescue Services district manager, who manages paramedics at all the bases within the district, delegated a liaison officer to assist the researcher, in gaining access to the paramedics. The paramedics normally work shifts in different teams. The liaison person assisted the researcher in making appointments to meet with the various team leaders who assisted the researcher to meet with the paramedics at the base. The researcher addressed at least seven teams on seven different occasions and shifts in short meetings and explained the details of the study. They were each given the letter of information to read, and the researcher answered questions and recruited participants for the study. Appointments were made with the interested participants to interview them. Most of the paramedics were interviewed at the base whilst a few were interviewed virtually. All the paramedics who wished to participate, signed consent forms and submitted them to the researcher.

All ethical principles were strictly adhered to, during the recruitment process and all the relevant stakeholders assisted with the recruitment, thereby obviating any coercion. The recruitment of participants through the heads ensured that this was free of bias. The requests made by the managements of all healthcare settings, to uphold ethical principles during recruitment, were strictly adhered to.

3.8.5 Wellness experts

Due to the limited number of wellness experts within healthcare institutions, a purposive sampling strategy was used. Access to potential participants, i.e. wellness experts, was facilitated through the acting district manager, who informed those with experience and expertise in wellness about the study. Those interested informed the manager who then provisioned the researcher with their contact details. Those meeting the pre-defined inclusion criteria were then contacted by telephone. A detailed explanation of the aim and anticipated findings of the study was provided. A snowball sampling method was then used, as the participants contacted, recommend other potential experts who could contribute their expert knowledge to the focus group discussion (Polit and Beck 2021: 498). Upon recruitment, the overarching goal of developing a holistic wellness program was discussed with the participants.

Following the voluntary agreement of participants to engage in the expert focus group discussion, an information letter (Annexure: 12) and a consent form (Annexure: 13) were disseminated via email. Signed consent forms were collected from all participants prior to the commencement of the focus group discussions. Subsequently, a date was scheduled for the MS Teams meeting, and an invitation, including the access link, was distributed to each participant via email.

3.9 Data collection method

Instrumental case studies rely heavily on qualitative data; hence data collection commonly involves the use of interviews (Bhattacharjee *et al.* 2020: 96; Polit and Beck 2021: 484). Polit and Beck (2021: 511) explained that data is collected in the form of words and sentences and is often aimed at exploring the participants' feelings, emotions or subjective perceptions of the phenomena being studied. Data collection methods may include the use of semi-structured or unstructured instruments for focus groups, group discussions or interviews. This will provide the researcher with data, which will enable him or her to fully understand the participants' experiences of the phenomenon being studied. Participants may be interviewed more than once to follow up on a particular issue, clarify information or check the reliability of data. These methods however are very time consuming and expensive, and the findings often cannot be generalised to a greater population. The researchers are known to adopt triangulation to increase the credibility or authenticity of the results (Gray, Grove and Sutherland 2017: 485; Creswell and Poth 2018: 153; Leedy and Ormrod 2021: 270; Polit and Beck 2021: 513).

To address the research questions and achieve the stated aim and objectives of this instrumental case study, a dual-method approach to data collection was employed. First, semi-structured interviews were conducted with individual healthcare practitioners to gather in-depth perspectives. Second, a focus group methodology, guided by a pre-defined focus group guide, was utilized to collect data pertaining to holistic wellness interventions, with the specific intention of informing the development of a comprehensive wellness program.

3.9.1 Semi-structured interviews and focus group discussions

- **Semi-structured interviews**

Semi-structured interviews allow the researcher to gain a holistic picture of a participant's subjective beliefs, perception or accounts of a topic. Participants are also encouraged to provide rich in-depth data about the phenomena being studied (Polit and Beck 2021: 514). Within the data collection encounter, the researcher asks the participant, pre-prepared open-ended questions to which the participant responds in his or her own words, shares new information and ideas and leads the conversation in different directions (Polit and Beck 2021: 514; Van Holm 2021). The researcher conducted individual semi-structured interviews with all 65 participants (healthcare practitioners). The participants' responses to the researcher's questions allowed the researcher to probe, explore further or redirect the question to the topic of relevance for the study. The researcher followed up with probes to the original question such as, "*when that happened how you did feel?*" (Leedy and Ormrod 2021: 181, Polit and Beck 2021: 514). The piloted interview guide led the interview process, thereby allowing the participants to share their experiences, with working with COVID-19 patients.

- **Focus group discussions**

Focus group discussions represent a valuable qualitative data collection method, distinguished by the composition of participants, who may be either homogenous, sharing similar characteristics, or heterogeneous, representing a diverse range of perspectives. The optimal size for a focus group typically ranges from three to fifteen participants, with a recommended upper limit of fifteen to ensure effective engagement and manageability (Shabina, Amit, Eram and Pranav *et al.* 2024: 302; Fouche, Strydom and Roestenburg 2022: 362).

The researcher recruited a larger focus group of twelve wellness experts to contribute to the development a holistic wellness program. The larger group was particularly well-suited, as it allowed for the generation of a broader spectrum of ideas and perspectives. To ensure a comprehensive and multi-faceted approach to the wellness program development, the focus group comprised a diverse cohort of healthcare professionals.

These individuals, who represented various roles within the healthcare system, shared a unified commitment to improving the well-being of healthcare workers. This heterogeneity was considered essential for formulating a holistic and effective wellness initiative.

The neutrality of the topic did not elicit any strong emotional responses from the wellness experts. The researcher was the moderator and played a crucial role in guiding the discussion and ensured that all participants had the opportunity to contribute and actively participate throughout the session. The focus group discussion was employed during the planning phase for development of the holistic wellness program as well as the validation of data and the program (Shabina *et al.* 2024: 303; Fouche, Strydom and Roestenburg 2022: 362).

Semi-structured interviews and focus group discussions may be face to face, however other technologies have advanced such as video conferencing, telephone, and MS (Microsoft) Teams meetings, Zoom meetings, WhatsApp video calls, WhatsApp voice recordings and chats and self-reports. During the COVID-19 pandemic new innovative methods of interviewing participants emerged (Lobe, Morgan and Hoffman 2020: 6; Fouche, Strydom and Roestenburg 2022: 362-368). A further discussion of these platforms will follow in the relevant paragraphs.

3.9.2 Data collection tools

The study employed two distinct data collection methods: semi-structured interviews and focus group discussion. Specifically, a semi-structured interview guide and a focus group discussion guide were utilized to facilitate the gathering of relevant data.

3.9.2.1 Interview guide

A semi-structured interview guide (Annexure: 14) was used for data collection with 65 healthcare practitioners. The researcher wished to collect in-depth data about the phenomena studied. A semi-structured interview guide, that forms a soft structure and maps out a framework for the study is normally developed by the researcher, who ensures that the questions must achieve the research objectives and answer the research questions. This assists the researcher to keep the interview within the boundaries of the study (Van Holm 2021 and Polit and Beck 2021: 514). Questions used during semi-

structured interviews are pre-established open-ended questions and the entire interview is recorded on a recording device (Fouche, Strydom and Roestenburg 2022: 358; Freitas-Jesus, Rodrigues and Surit 2020: 10).

An interview guide (Annexure 14) was developed by the researcher, after taking into consideration the aim, objectives and research questions of the study. An extensive review of literature was conducted to understand what was already known about the phenomena on hand, the research designs used and the gaps that existed. This informed the development of the interview guide. The same interview guide was used for all the participants.

All healthcare practitioners were proficient in the English language, as this was the medium of communication, for healthcare practitioners, at all Department of Health institutions. Hence the interview guide was developed in English. Section A captured their demographic data and was made up of six questions. Section B included twelve broad open-ended questions. The questions centred on the experiences of healthcare practitioners, whilst they worked at the frontline of the COVID-19 pandemic and the impact that this had, on their physical, psychological, social and spiritual well-being.

Other broad topics included whether spiritual and psychological support was available to healthcare practitioners and what additional structures could be put in place to better support them. These broad topics were presented as open-ended questions that the researcher used to interview the participants. Hence the researcher was able to obtain in-depth and rich data. The tool was flexible, thus allowed the researcher to seek further clarity, when any ambiguous or unclear information was shared. The questions were arranged thematically, which allowed the information to flow in a logical manner and also allowed for a smooth transition from one topic to the next. The semi-structured interview guide was piloted by the researcher before it was used in the main study. This will be discussed in the sub-section that follows.

3.9.2.2 Focus group discussion guide

A focus group discussion guide served as the framework for facilitating discussions with wellness experts. In qualitative research, the focus group discussion guide serves as a

flexible framework rather than a rigid script. Characteristically, it contains a limited number of open-ended questions, designed to stimulate conversation and allow for organic exploration of the topic at hand (Fouche, Strydom and Roestenburg 2022: 370).

The focus group discussion guide was developed based on the interview guide previously utilized with healthcare practitioners. Specifically, the guide was designed to expand upon question 15 from the interview guide (Annexure: 14), which inquired about potential support interventions and systems for healthcare practitioners and their families ("Can you share with me what possible support interventions and systems can be put in place to support you and your family?"). This question was adapted for the focus group setting to focus solely on support for healthcare practitioners ("Can you share with me what possible support interventions and systems can be put in place for healthcare practitioners?"). The primary question posed to the expert focus group was intentionally broad and open-ended to encourage a comprehensive discussion. Subsequent questions were designed to further stimulate dialogue concerning interventions addressing physical, psychological, social, and spiritual well-being (Annexure: 17). This approach prioritized participant-driven insights, and promoted a more nuanced understanding of the subject matter through spontaneous dialogue and emergent themes.

3.9.3 Pilot Study

Polit and Beck (2021: 797) described a pilot study as a small-scale trial run, to test a method or data collection tool that will be adopted in the main study. Although the pilot study is time consuming, it was important because it aimed at preventing expensive flaws in the main study. It is also referred to as a feasibility study. Pilot studies are generally undertaken with participants who do not form part of the main sample, but who share similar characteristics of the study sample. The pilot study also aims to assess the appropriateness and the quality of the questions in the data collection tool or instrument. The trial run enables the researcher to identify errors and gaps in the instrument. Once weaknesses have been identified, efforts can then be made to improve and correct the instrument (Fouche, Strydom and Roestenburg 2022: 236; Leedy and Ormrod 2021: 130).

3.9.3.1 Interview guide: healthcare practitioners

This tool was piloted with six participants who were not part of the main study. The participants were all healthcare practitioners (2 professional nurses, 2 enrolled nurses, 1 doctor and 1 paramedic). They all met the inclusion criteria identified for the samples in the study. Prospective participants who worked with COVID-19 were purposively sampled and invited to participate in the pilot study. The data collection process mimicked the process for the main study. The study was explained to each participant, and they were given a letter of information (Annexure: 12) to read. Once the participants understood the study and agreed to participate, they signed a written consent form (Annexure: 13) and returned them to the researcher. Participation was voluntary and the participants were informed that they could leave the pilot study at any time if they wished to. All ethical aspects were explained to each participant, particularly how the researcher would maintain confidentiality and anonymity. They were also informed that should any question evoke an emotional response, the interview would be stopped, and then continued if possible, thereafter or at a later date. They were also informed that should they need a referral to a professional clinician for counselling, this would be effected.

The pilot study was conducted in January 2021, just as the second COVID-19 wave peaked in South Africa. There were strict COVID-19 guidelines and restrictions at healthcare institutions and curfews that South Africans had to adhere to. It was therefore necessary to conduct WhatsApp video call interviews, to safeguard the health of the pilot sample, the researcher and the hospital patients. Each interview took approximately 45 minutes. After minor revisions the interview guide was adopted.

A nurse specialist holding a Doctorate in Nursing, a qualitative researcher, with extensive knowledge in social sciences and psychiatric nursing and who has a profound interest in spirituality, participated in reviewing the semi-structured interview guide (Leedy and Ormrod 2021: 130). She also reviewed the letter of information, consent form and attempted to answer the questions during a mock interview. She found that the interview guide was free of ambiguity and had the potential to collect very rich and thick data. Following minor revisions, the guide was finalized and adopted to interview the doctors, professional nurses, enrolled nurses and paramedics.

The researcher herself used the pilot as a training session, to develop her confidence in the interviewing process. The researcher also learnt from the pilot study that the phenomena being studied, was complex. Hence, she had to prepare herself psychologically before commencing with the main study.

3.9.3.2 Focus group discussion guide: wellness experts

The focus group discussion guide underwent a pilot study adhering to the same stringent methodological principles outlined above. This pilot testing involved three participants mirroring the demographic and experiential characteristics of the intended focus group population, but excluded from the final study sample. These individuals provided informed consent to participate after reviewing the provided information letter (Annexure: 12) and signing the corresponding consent form (Annexure: 13). Participants in the focus group pilot were explicitly informed of their right to withdraw from the process at any stage without penalty. Based on the feedback and insights gained during the pilot phase, necessary revisions were implemented to refine the data collection instrument, leading to the final adoption of the focus group discussion guide for the main study.

3.10 Data collection process

3.10.1 Interviews: healthcare practitioners

The data collection phase for this study spanned from March 2021 to February 2022. Data collection commenced only after full ethical clearance was received from the Durban University of Technology (Annexure: 11). Gatekeeper approval was also received from the KwaZulu-Natal Department of Health Research and Knowledge Management Unit (Annexure: 2), uMgungundlovu Health District (Annexure: 4), “Hospital 1” (Annexure: 6), “Hospital 2” (Annexure 8) and the uMgungundlovu Emergency Medical and Rescue Services (EMRS) (Annexure 10). A semi-structured interview guide (Annexure: 14), was used as the data collection tool for all 65 healthcare practitioners who were interviewed (doctors, professional nurses, enrolled nurses and paramedics). This approach was not a linear approach, but rather a back-and-forth approach, as participants shared many important aspects of their experiences. The researcher also had to follow up with the participants and validate the data they shared.

During the months of increased COVID-19 infections, healthcare institutions became more vigilant and implemented very strict COVID-19 protocols, such as limiting foot traffic in and out of the clinical areas. These measures therefore impacted on the proposed methods and processes for data collection. Gatekeeper letters consequently spelt out the precautionary measures that the researcher had to adhere to. The researcher had to wear a mask, maintain a social distance of 1.5 meters from the participants and not spend more than 15 minutes in a closed environment, with the participants. This amount of time was not feasible to conduct a full interview. Hence a large portion of the interviews were conducted using technological platforms.

In addition, some of managers had requested that the normal work activities of the participants could not be disrupted as the participants, were very busy with patient care and were working under extremely stressful conditions. Hence the participants needed to participate in the study during their off-duty time. The increased workload of the participants resulted in physical and mental exhaustion, which also meant that the researcher had to be sensitive to this and delay the interview process for many of the participants, to ensure that the data was collected in a sound and ethical manner.

Consent forms were returned in person on meeting with the participants during the recruitment process. Others returned them via electronic means. Some interviews were conducted at the research sites whilst most interviews were held, when participants were off duty. Participants who were interviewed virtually during their off-duty time, did so from the privacy of their homes. The workplace and their homes created a naturalistic environment that was comfortable for them to speak from. At the onset of the interviews each participant verified that they understood the contents of the letter of information and the study. They further acknowledged that they signed the consent form and were participating voluntarily. They also confirmed that they understood the ethical principles explained to them. All interviews were recorded. In addition, the researcher made field notes.

The interviews lasted about 60-90 minutes for all categories of the samples. Most of the interviews were lengthy, but because data collection commenced after the second COVID-19 wave in South Africa, participants had more to share regarding their

experiences. Some individual experiences of participants differed as they worked in different clinical placement sites and their portfolios differed. The prolonged trajectory of the pandemic meant that the physical, psychological, emotional, social and spiritual effects on the participants were greater, resulting in more narratives being gathered.

The researcher empathized with the participants, who often became emotional and gave them time to compose themselves. In some instances, the researcher had to step back and reschedule appointments. Participants who required referrals for counselling, were referred to the employee assistant practitioner (EAP). Some participants preferred to see their private psychologists as they were not familiar with the hospital employee assistance practitioner (EAP). The researcher is also an experienced healthcare practitioner herself and was therefore able to provide immediate psychological support and reassurance when needed. The participants voiced their appreciation of this post-interview debriefing sessions as they felt that it assisted in releasing some of their stress. The data collection process, specific to the different categories of the sample are discussed below. All COVID-19 protocols were maintained.

3.10.1.1 Sample 1: Doctors

The researcher had planned to interview a minimum of ten doctors. However, a total of twenty-one doctors were eventually recruited in order to achieve data saturation. Almost all of the doctors who participated in the study were interviewed during their off-duty time. Five interviews were conducted via WhatsApp calls and eleven using WhatsApp video calls. These were the preferred methods of data collection for this cohort of participants, as they were participating from the comfort of their homes in their own leisure time. Only one face to face interview was conducted, in the intensive care unit in January 2022, as it was safe to do this at that time. In four instances where participants experienced network problems, it was necessary to do the interviews via telephone calls.

3.10.1.2 Sample 2: Professional nurses

The initial sample for professional nurses was fifteen. However, a total of twenty-one nurses eventually participated in the study, so that data saturation could be achieved. Seven participants requested to be interviewed using WhatsApp calls and ten through

WhatsApp video calls. Four participants were interviewed face to face. The face-to-face interviews were conducted, when the new COVID-19 admissions were significantly reduced, making it safe to do same and all the relevant COVID-19 protocols were adhered to. The nursing manager had granted permission for this to occur. Some of the different work experiences of the sample resulted in data saturation taking longer to achieve.

3.10.1.3 Sample 3: Enrolled nurses

Ten enrolled nurses participated in the study. Three were interviewed using WhatsApp calls and seven through WhatsApp video calls, as this was their preferred method for data collection. Data saturation was achieved with this number of participants.

3.10.1.4 Sample 4: Paramedics

The researcher initially aimed to conduct interviews with at least ten paramedics. However, the recruitment process extended until a total of thirteen participants were interviewed, at which point data saturation was achieved. Eight participants were interviewed while on duty, through face-to-face interactions at the base. Additionally, two participants were interviewed via WhatsApp calls, and three others participated through WhatsApp video calls, conducted at their convenience in the privacy of their homes. The paramedics experienced a high workload during the COVID-19 pandemic, which frequently led to interruptions during the interviews due to emergency call-outs, necessitating the continuation of discussions at a later time. Paramedics were often called out during the day, making it extremely difficult to complete an interview, whilst they were on duty. The researcher had to adapt and make allowances for this. Furthermore, it was a challenge when interviewing paramedics on night duty, due to the COVID-19 curfew, which meant that the researcher had to leave the base early, to avoid breaking the curfew. Despite these challenges the researcher was able to complete the data collection process, with this category of the sample.

3.10.1.5 Sample 5: wellness experts

A focus group discussion, using the Microsoft Teams platform, was used to conduct the focus group discussion. This platform was convenient and accessible minimizing logistical challenges related to disparate work schedules and the geographical differences with the

participants. The discussion lasted approximately 90 minutes. The participants' extensive and diverse knowledge of innovative, holistic wellness interventions were crucial in developing the program that emerged in Chapter six.

3.11 Data capturing and data analysis

During the data collection phase, researchers use several data collection methods such as handwritten notes or field notes, audio recordings or video recordings which are valuable in the data analysis phase (Chapter v6

and Lincoln 2018: 114). Polit and Beck (2021: 534) explained that in qualitative studies, data collection and analysis occur simultaneously with an intent to identify common themes and concepts. The analysis of qualitative data is labour intensive and requires that data is organized, provided with structure and given meaning (Creswell and Poth 2018: 227; Polit and Beck 2021: 534).

3.11.1 Interviews: healthcare practitioners

During the data collection phase, the researcher recorded all interviews conducted and made corresponding handwritten field notes. The researcher kept an account of the experiences narrated. The participants were observed during the interview and key notes of the emotions, changes in body language and facial expressions of individuals were annotated. Recorded interviews, keeping field notes and verbatim transcriptions are also characteristic of data sources in instrumental case studies.

Bhattacharjee *et al.* (2020: 105) argued that the interpretive analysis of data, is holistic and contextual instead of being reductionist and isolationist. Rigor is achieved through the transparent methods used for data collection and analysis. Data collection and analysis takes place simultaneously and “iteratively” in the interpretive paradigm. Flaws and gaps may be addressed and questions adapted to ensure that the study generates new information and captures the phenomenon of interest (Bhattacharjee *et al.* 2020: 105). Thematic analysis was adopted for the analysis of the data in the current study.

3.11.2 Focus group discussion: wellness experts

This phase of data collection took place after the analysis of data from the healthcare practitioners' interviews, as some of the findings formed the foundation for the development of the wellness program. The norms for the group discussion were outlined, confidentiality was emphasized, and the participants were reassured that anonymity would be maintained. The wellness experts granted the researcher permission to record the discussions. The purpose and objective of the meeting and an overview of the themes and sub-themes of the study were presented to the focus group. They posed certain questions such as, "*Will this program replace any existing programs?*" (FG.12). The researcher clarified that the program could enhance existing programs and was not intended to replace those already in place. The wellness experts agreed that whilst certain wellness interventions for healthcare practitioners were available, they needed to be strengthened with more creative and innovative interventions that could be more accessible and beneficial to all across different healthcare settings.

At the onset of the MS teams meeting, one of the participants, opined that a holistic wellness program should not only include interventions that were driven by the healthcare institutions but those that individuals could implement by themselves ("*May I please clarify that the interventions would be inclusive of organizational initiatives and those by the healthcare workers themselves, as this is a holistic wellness program.*" FG.11). All experts concurred with this point. The objectives of the program were then jointly developed.

The focus group discussion was facilitated by the researcher, adhering to the pre-determined structure outlined in the focus group discussion guide. To ensure methodological rigor and provide an independent assessment of the process, the research supervisor attended the session as a non-participatory observer, a practice approved by all participating focus group experts.

The participants were encouraged to answer the questions thereby enabling them to suggest a range of interventions that focused on the physical, psychological, social, and spiritual domains. Due to their expertise, experience; knowledge and skills they were able to share rich insights regarding potential wellness interventions. To support trustworthiness of the data, the researcher repeated and summarized the contributions of

each participant (Polit and Beck 2021: 573). Once they were satisfied that their narratives were accurately captured, then only did the discussion move on. Their suggestions and ideas were recorded and field notes taken.

The discussions ensued until there was a saturation of ideas related to potential wellness interventions under the physical, psychological, social and spiritual domains. The group discussion lasted approximately 90 minutes, enabling members to clarify issues linked to the emerging interventions and further contribute to them (Sabnis and Wolgemuth 2023: 9). Once the discussion was concluded, the wellness experts were thanked and the researcher informed them that she would give them an opportunity to validate the data once captured in word format and analyzed. She would also share the draft wellness program to ensure trustworthiness of same and to also allow for any changes.

3.12 Thematic Analysis

Thematic analysis involves the identification, analysis and reporting of patterns within data sets. Braun and Clark (2006: 18) described thematic analysis as having the potential for substantial “theoretical flexibility” which can result in “theory-driven or data-driven” findings and encompass a range of research questions. When engaging in thematic analysis, the researcher sorts and sifts through data to identify and recognize phrases and relationships that are alike (Miles and Huberman 1994, cited in Lester, Cho and Lochmiller 2020: 98). A theme identifies something significant in relation to the research question that represents a pattern of responses within a data set (Braun and Clark 2006: 10). Lastly thematic analysis can be applied, when analyzing varied data and data size. Braun and Clark’s (2006: 16) thematic analysis framework, was adopted for the current study, as it could be adapted to any theoretical framework that guided the study. The study had broad research objectives and questions; hence it generated a large data set. The flexible nature of the framework allowed the researcher to manage the large data set in a systematic manner by following a step-by-step process. The emerging themes that were relevant to the research questions were identified. Thematic analysis was adopted for both the interviews with health practitioners and focus group discussions with wellness experts.

3.12.1 Interviews: healthcare practitioners

3.12.1.1 Phase 1: Familiarizing yourself with your data

Braun and Clark (2006: 16), recommended that researcher familiarize themselves with the data by reading and re-reading the transcripts. The interviews were conducted by the researcher and generated copious amounts of data from audio recordings of individual interviews, field notes and the diary. All recordings were downloaded onto a laptop and backed up on a memory stick. An electronic format was used to store data in files and were dated and labelled thus creating a data corpus. All anonymized electronic documents were transcribed verbatim, in order to gain an accurate account of the discussion. An experienced transcriber was engaged to transform the recordings manually into textual formats. The transcriber signed a confidentiality clause (Annexure: 15), with the researcher as she was managing raw data. The researcher had a video conference with the transcriber to discuss common terminology that would be used and also the possible themes that the transcriber needed to be aware of. Even though the services of a professional transcriber were used, the researcher still listened to all the recordings against each transcript and made corrections, as it enabled her to understand the data from the participants' perspectives.

Once the data was organized, transcribed and all transcriptions were anonymized the researcher accessed the services of an independent coder. The independent coder was a nurse with a Doctoral degree, was an experienced qualitative researcher, with national and international publications and also presented her papers internationally. The independent coder signed a confidentiality agreement (Annexure: 18) as she had access to the participants' raw data. However, all transcripts were given code names. The researcher and the independent coder coded the data and developed the themes independently of each other. They then reached a consensus on the coding decisions, which ensured intercoder reliability (Polit and Beck 2021: 789). They each followed the steps of Braun and Clark's six phase thematic analysis framework. They met at the end of each phase, discussed their analysis and reached an agreement before moving onto the next (Braun and Clark 2006: 16).

The researcher actively immersed herself in the data and carefully read the entire data set. Objectivity, without prior prejudice, was maintained throughout the repeated readings. This allowed the researcher to gain an understanding of the depth and breadth of the experiences of the participants during the COVID-19 pandemic. All the information of interest was highlighted, on the hard copy, matched to field notes and cross-referenced against the research questions for relevance. The data from all four categories of the sample were holistically analyzed. These points were captured on a word document under each research question, thereby enabling the researcher to find meanings to the points and identified patterns.

The researcher took note of the interesting ideas and discussed this with the independent coder, who followed the same process. A consensus was reached on commonalities before both coders embarked on the next phase (Braun and Clark 2006: 16). The researchers' supervisor was also actively involved during this process and guided the researcher throughout the phases. Table 3.4 is an illustration of a few codes, which were related to one of the research questions. These were the points that were discussed and accepted by the researcher, the independent coder and the research supervisor. Irrelevant codes that the researcher was unsure of were discarded.

Table 3.4: Familiarization of data: initial codes that corresponded to the research question

Research question	Codes
Please tell me about how your interaction and care of patients under investigation and COVID – 19 positive patients affected you physically, psychologically, spiritually and socially?	Tired, drained, no energy, sweaty, hot, sweaty, hyperventilating, no sleep. Guilt and heavy heart, despair and desperation, end of the road, hopeless, helpless, impending doom, fed up. Prayed for protection, strong belief in God, spiritual leader, cleansing ritual, mindfulness, yoga, meditation. Isolated, lonely, family did not want me in contact with them, taxis - the community did not want to sit next to me, gardening, and woodwork.

3.12.1.2 Phase 2: Generating initial codes

This phase of data analysis focused on the initial generation of codes from the data. Codes recognize a characteristic of the data (semantic content or latent), that are of

interest to the researcher. It is a rudimentary element of the raw data that may be measured in a meaningful way. Table 3.5 is an illustration of a few codes that were related to a research question, within the context of the study (Braun and Clark 2006: 16).

The researcher proceeded to do a line by line reading of each transcript and paraphrased what was understood from the participants' responses in order to interpret what was said. Coding was done manually using the paper and pen method for the entire data set. An inductive approach was used, in the coding of the data. The researcher was not trying to fit the codes to themes. Instead, she coded the entire data set which reduced bias. The codes emerged organically from the data set. This is also a characteristic of the interpretive paradigm, which guided this study. Initially open coding was done, that is everything that was relevant to the study was coded. This included experiences of healthcare practitioners working with COVID-19 patients. A series of coding and recoding of the data assisted the researcher to reduce data. The researcher kept an open mind and was mindful of the emergence of unexpected data, to generate new themes. Coding assisted in the classification of data that was systematically compared with other parts of the data set (Braun and Clark 2006: 17).

Thereafter the researcher connected statements and experiences of the data to make better sense of the data. The researcher identified all the commonalities in the data, grouped it and compared it with the data that was different. A holistic analysis of the data was conducted. Table 3.5 presents an illustration of the data excerpts against the initial codes from the data set.

Table 3.5: Data excerpts (sample) and initial codes

Participant	Data excerpt/extract with initial codes	Classification
D.M.7	<i>"The weather is dry and you are in this big tent, from 8 am to 4 pm and you work, you are <u>hot</u>, it was <u>tiring</u>, <u>uncomfortable</u>, with the N95 mask, <u>hyperventilating</u>."</i>	Physical
RN.20.F.	<i>The young ones, when they just can't breathe, the doctors will call "Hospital 1" and they will say no bed, no ventilator ... nothing else we could do ... we actually <u>cried</u>."</i>	Psychological
EN.5.F.	<i>"Especially when you are wearing your uniform, they did not even want to sit next [taxis] to you. I <u>felt bad</u> but as much as you are helping these people, they see you as the cause."</i>	Social
P.9.M.	<i>Listened to <u>music</u>. Played the <u>piano</u> ... level increased, learnt a new skill...<u>making ironing boards</u>".</i>	Spiritual

3.12.1.3 Phase 3: Searching for themes

This phase is concerned with organizing the codes into possible themes and arranging the appropriate coded data extracts within the identified themes. This is the process of analyzing the codes, whilst taking into consideration how to sort the various codes into predominant themes. Other codes related to these main themes, will be arranged as sub-themes (Braun and Clark 2006: 20).

The researcher identified and captured codes that were relevant to the research questions. She also noted those that were unusual and surprising. A flat coding framework although labour intensive was used. Codes that were not related to the research objectives and questions were eliminated, as the researcher attempted to reduce the data. The codes were then arranged into broad categories by arranging similarities into one common category and differences into others. This then led to themes and sub-themes emerging. For example, common codes were grouped such as tired, drained and no energy. A potential theme of physical exhaustion emerged from these codes. Codes such as "could not sleep" and "not having six to eight hours of sleep," was indicative of sleep disturbances. The two themes that emerged reflected the impact on the physical health of the healthcare practitioner.

Other codes included “guilt and heavy heart”, “despair and desperation” and “end of the road”. “Moral injury among healthcare workers” was then identified as an emerging theme. On further re-organization of the data, the researcher identified “stay in my mind till the end of life”, “pain and fear in patient’s eyes” and “family dying together, devastating” as another emerging theme, which she labelled as “secondary traumatic stress of healthcare worker”. Both these themes had affected the psychological well-being of the healthcare workers. The researcher considered reorganizing these findings into a main theme and sub-themes. Initially the research had 18 themes and 65 sub-themes due to the large data set. The figures (Figure 3.3 and 3.4) below are a depiction of part of the analysis related to certain themes.

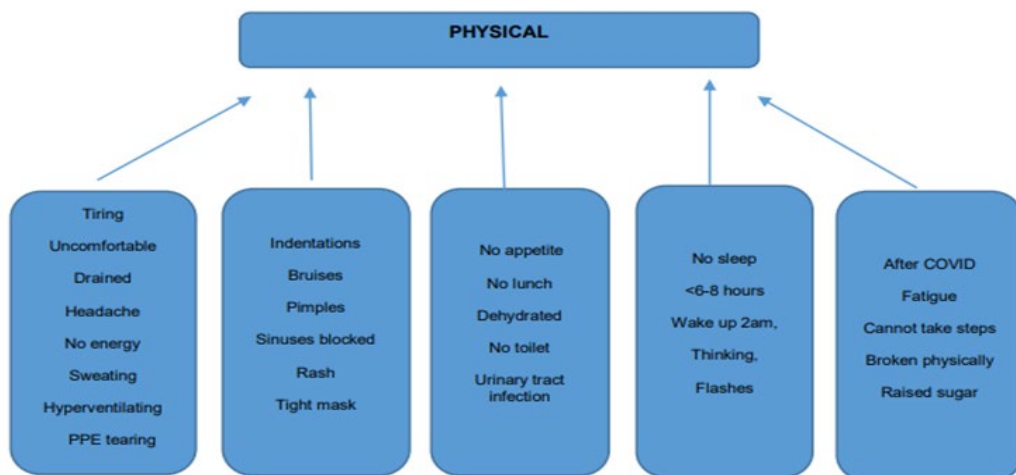


Figure: 3.3 Codes depicting physical effects

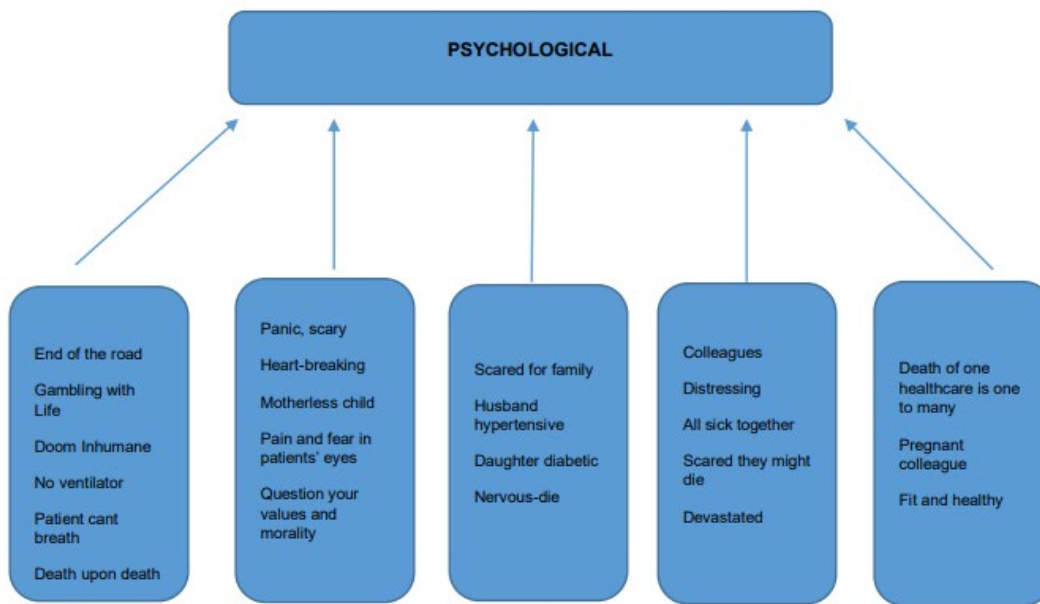


Figure 3.4: Codes depicting psychological effects

3.12.1.4 Phase 4: Reviewing themes

This phase encompassed two levels of reviewing and refining the themes identified. Level one comprised of reviewing at the level of the coded data extracts (Braun and Clark 2006: 20). The researcher read all the organized excerpts for each theme and reflected on whether there was a clear pattern. Themes that did not fit with the existing themes and appeared to be problematic were identified. It was not possible to create new themes, so the researcher discarded them from the analysis. The themes were then plotted onto a flat framework, as it was easier to manage large amounts of data on this format. Level 2 involved the researcher exploring the validity of the individual themes in relation to the entire data set (Braun and Clark 2006: 20).

The flat frameworks were assessed to ensure that it accurately illustrated the meaning of the data set. To do this the researcher re-read the entire data set and coded additional data, that was left out in the earlier phase and arranged them under the relevant themes. The data set was therefore recoded. Codes that led to the development of new themes were then identified. Examples included the “loss of a loved one.” Healthcare workers were grieving the loss of family members; hence the loss affected their psychological well-

being. They were also critically ill with COVID-19 and ventilated. This code resulted in a new theme developing. The additions and adjustments of these codes resulted in recoding. The thematic map was also refined to accommodate the amendments made.

This process continued until the researcher reduced unnecessary data. Twelve themes finally emerged, with each having their own sub-themes. For the purpose of this study, the researcher presented the themes and sub-themes in Chapter four. Figure 3.5 below is an illustration of the data analysis process, (i.e. the emergence of new themes) that the researcher applied to the current study.

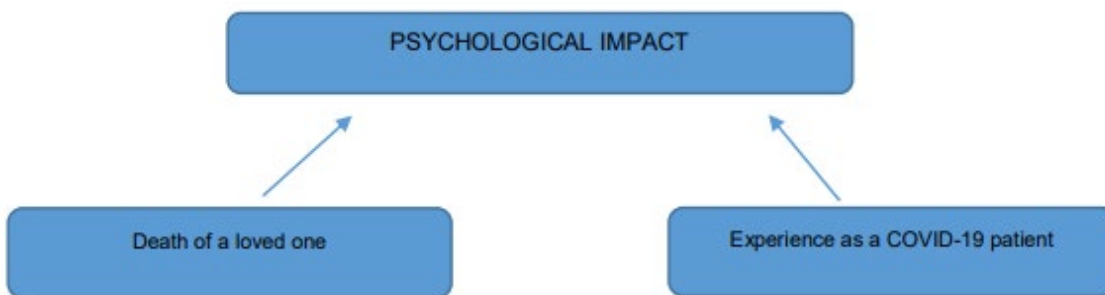


Figure 3.5: Development of new themes that were emerging from the data

3.12.1.5 Phase 5: Defining and naming themes

This phase involves the defining and refining of themes, that will be presented as the data analysis, from the data collected during the study (Braun and Clark 2006: 22). The researcher proceeded to return to the organized data and arranged the excerpts into logical and reliable accounts with their accompanying narratives. The narratives were verbatim accounts of exactly what the participants said such as “despair and desperation”. These codes related to moral injury and were grouped together as a sub-theme, which the researcher named as moral injury. The researcher also clarified the essence of each of the themes. For example, the theme of psychological well-being included sub-themes such as “moral injury among health care workers and secondary traumatic stress of health care workers”.

The researcher proceeded to internalize this and concluded that the overarching theme needed to be “psychological effects of caring for COVID-19 patients” as it was more meaningful. The theme provided an indication of the sub-themes that would be included. This theme was clear and unambiguous. The researcher finalized 12 themes and 33 sub-themes to be included in the research report. The researcher and the independent coder, agreed on these themes and sub-themes, which was approved by the research supervisor. Figure 3.6 below depicts a portion of the themes and their respective sub-themes that emerged, following this phase of analysis.

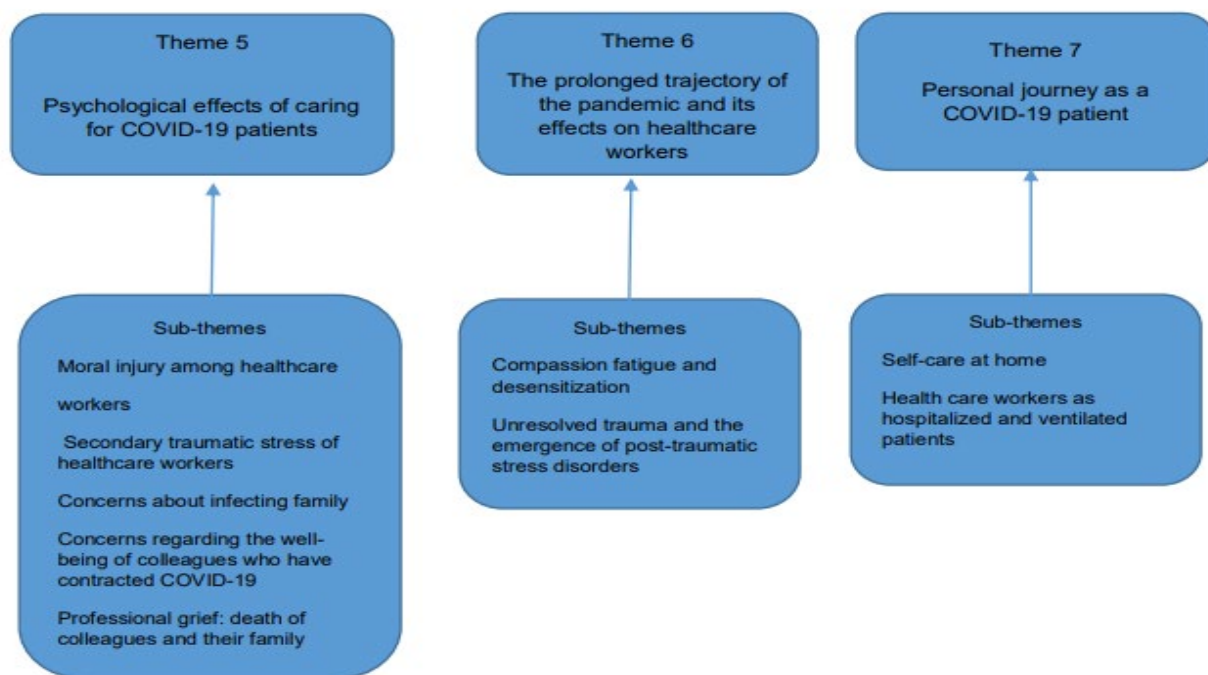


Figure 3.6: An extract of the flat framework depicting the themes and sub-themes

3.12.1.6 Phase 6: Producing the report

The final phase of the data analysis involved writing up the thesis. The researcher shared the complex story of the data, in a manner that can convince the reader of the merit and validity of the analysis (Braun and Clark 2006: 23). The researcher presented the 12 themes and 33 sub-themes in chapter four of the thesis. The themes and sub-themes

were logically arranged, so that the story of the healthcare workers was interesting for the reader. The themes and sub-themes were accompanied with adequate and the most interesting and convincing excerpts, which were direct quotations as shared by the participants. The excerpts were vivid accounts of what the participants actually experienced, which enabled the researcher to fully understand and empathize with each research participant. These excerpts richly demonstrated the essence of the themes presented. The themes were systematically analyzed and supported, with global and national literature (Braun and Clark 2006: 23).

Data analysis was conducted independently for the interviews with healthcare practitioners and the focus group discussion with wellness experts. This methodological separation was implemented due to the disparate nature of the data collected from each source. Furthermore, the design of the focus group discussion and the subsequent data collection were informed by the preliminary findings derived from the healthcare practitioner interviews.

3.12.2 Focus group discussion

The thematic analysis of data obtained from the expert focus group mirrored the same rigorous process used in analyzing the interviews and hence will not be repeated (Braun and Clarke 2006: 16). To mitigate potential researcher bias and enhance the trustworthiness an experienced, an independent coder was engaged, bound by a confidentiality agreement (Annexure: 18). Both the researcher and the independent coder then independently applied Braun and Clarke's (2006: 18) thematic analysis framework to the data.

For the purpose of this study, the excerpts from the focus group discussion with the wellness experts are presented in Table 5.2 chapter five, wherein the development of the holistic wellness program is presented. The themes and sub-themes identified are presented in Table 1 in chapter six. The holistic wellness program detailed in Chapter six, Table 1, is structured around four overarching themes (biological/physical, psychological, social and spiritual domains). They are presented as key domains of the biopsychosocial-spiritual framework, which serves as the theoretical foundation for this

study. The sub-themes within each domain are further delineated as categories, providing a more granular analysis of the components contributing to overall well-being.

Figure 3.7 below depicts a sample of codes that were identified for the emerging themes in the holistic wellness program.

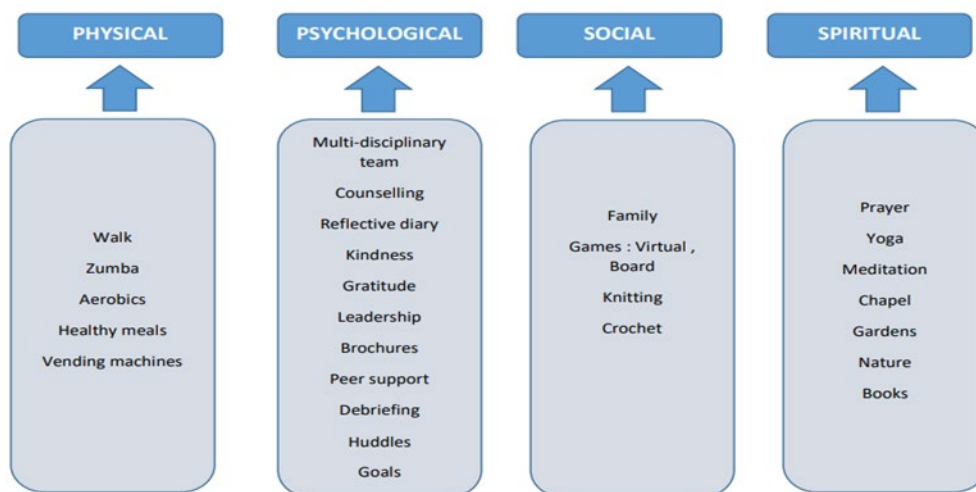


Figure 3.7: Codes depicting physical, psychological, social and spiritual interventions

During the data coding process, the researcher categorized identified interventions based on their primary impact on health domains. Codes demonstrably related to physical well-being, such as “walk, Zumba, aerobics, healthy eating habits, vending machines”, were grouped cohesively. Similarly, codes pertaining to psychological, social, and spiritual interventions were aggregated to reflect their interconnectedness, as illustrated in Figure 3.7. The researcher identified the physical, psychological, social and spiritual interventions as the four emerging themes.

Following a comprehensive and iterative analytical process, involving collaborative input from an independent coder and the research supervisor, the thematic analysis of the focus group discussions yielded a final framework comprising four overarching themes, each delineated by supporting sub-themes. A representative example of this thematic structure, illustrating the four overarching themes and their constituent sub-themes, is presented in Figure 3.8.

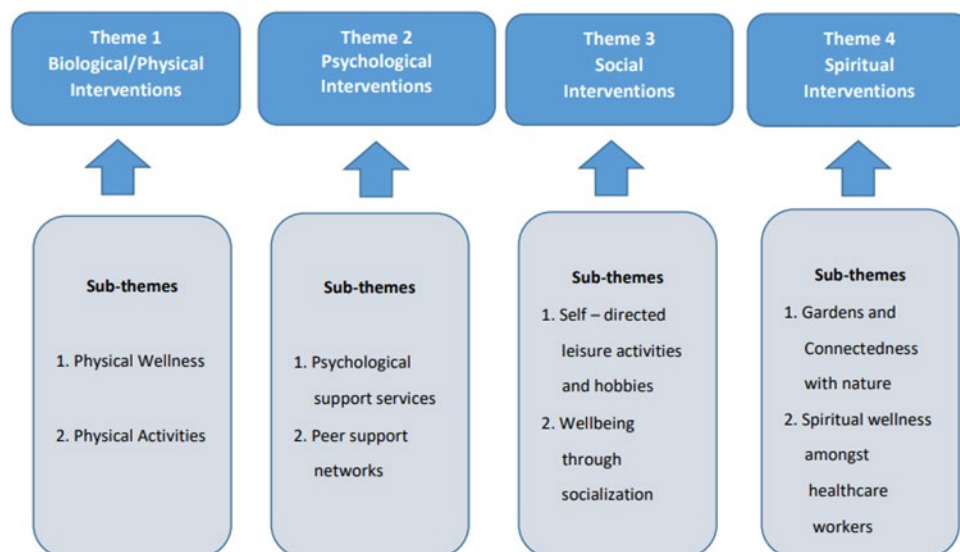


Figure 3.8: Wellness interventions: Themes and sub-themes

3.13 Rigor in qualitative research

3.13.1 Trustworthiness

Lincoln and Guba (1985: 290) paralleled trustworthiness in qualitative research to reliability and validity in quantitative research. Trustworthiness or rigor of a study refers to the degree of confidence that a researcher has in data, interpretation and methods used to ensure quality of a study (Polit and Beck 2021: 568). It is also described as the degree to which other individuals view the findings of the study as convincing (Leedy and Ormrod 2021: 270).

For the current study, Lincoln and Guba's (1985: 297-299) framework was adopted. The framework includes four epistemological standards and corresponding strategies, namely, credibility, dependability, confirmability and transferability. Authenticity will appear in the report when it reflects on the experiences of the participants in the study (Polit and Beck 2021: 570; Creswell and Poth 2018: 335; Fouche, Strydom and Roostenburg 2022: 393). The same rigorous principles applied to the healthcare practitioners' interviews were also applied to the wellness experts' focus group discussions, hence some aspects will be presented together.

3.13.1.1 Credibility

Credibility is the alternative to internal validity (Lincoln and Guba 1985: 296; Fouche, Strydom and Roestenburg 2022: 394). Credibility referred to the confidence in the truth of the data collected and the interpretation thereof (Polit and Beck 2021: 561). Qualitative researchers aim at establishing confidence in the truth of findings for the particular participants and contexts of the research. It is involved with an in-depth description that demonstrates the complexities of variables and interactions with data derived from the setting, in a way that ensures its validity (Leedy and Ormrod 2021: 106). Interpretive research is considered to be credible when the reader finds the suggestions made to be acceptable or believable (Bhattacharjee *et al.* 2020: 110). The following strategies were adopted, to ensure the credibility of the study:

- **Reflexivity:** researchers seek to recognise any personal, social, political or philosophical prejudices, that may negatively impact on the data collection and interpretation (Leedy and Ormrod 2021: 270; Polit and Beck 2021: 571).

The researcher appraised herself as the data collection instrument and entered the data collection processes objectively with no preconceived ideas. She documented her experiences of the data collection process for the interviews and the focus group discussion in a reflexive diary. Moreover, the researcher was an outsider in the process, as she was an academic whilst all the participants were clinical practitioners of varied race groups and cultures. Wellness experts were also not colleagues of or closely related to the researcher, as they were from varied disciplines of the Department of Health (Braun and Clark 2013: 8; Polit and Beck 2021: 571).

- **Field notes:** Creswell and Poth (2018: 35) and Polit and Beck (2021: 525) asserted that it was important to take notes during the interview, so that if the recording device failed the researcher had a back-up plan. The researcher meticulously made notes, of the critical experiences shared by the participants, their reactions and emotions. In addition, the researcher also made notes during the focus group discussion and kept a detailed record of the wellness interventions

shared. In essence it meant that raw data was captured as the interviews and focus group discussion progressed. The researcher also used the notes to reflect on the methodology and ethical dilemmas. Field notes assisted the researcher to provide context to the audio recordings (Creswell and Poth 2018: 35; Polit and Beck 2021: 525; Fouche, Strydom and Roestenburg 2022: 395).

- **Prolonged engagement:** It is during this period that the researcher builds trust with the participant. It also provides the researcher with the opportunity to rise above his or her preconceptions or misinformation and implement measures to clarify this. Prolonged engagement provides scope regarding the phenomena under investigation and adds rigour to the study (Lincoln and Guba 1985: 303; Creswell and Poth 2018: 340; Polit and Beck 2021: 571; Fouche, Strydom and Roestenburg 2022: 397). The interviews lasted between 60-90 minutes each, with each participant. The focus group discussion lasted about 90 minutes. This allowed the researcher to build rapport and create a relationship of trust with each participant. The prolonged engagement allowed sufficient time to ensure that rich believable data was collected. The researcher was able to delve deeper into the phenomena being explored.
- **Persistent observation:** Persistent observation provides depth regarding the phenomena under investigation (Polit and Beck 2021 571). The researcher made use of this strategy; by closely observing the participant's non-verbal responses with their verbal communication. Changes in facial expression, red eyes or tears during the face-to-face interviews and WhatsApp video interviews were noted. An example was when a participant began crying when sharing that she observed "death upon death". The researcher also, listened closely to other cues such as sniffles, stammering or long pauses during telephone interviews. She was able to confirm the emotions being experienced by the participants. Notes were made of these reactions and emotions. Wellness experts, however who participated in the focus group discussion were calm and were not emotionally affected as the data that they shared was not of a sensitive nature but was factual and often based on scientific evidence.

- **Triangulation:** Polit and Beck (2021: 572) argued that triangulation offers the opportunity to sift out salient information from that which is irrelevant or idiosyncratic, by using multiple perspectives. It is also viewed as a qualitative research strategy to test validity, through the convergence of information from different sources (Leedy and Ormrod 2021: 270). In other words, “do not forget about all the good research that came before you to strengthen your investigation”.
 - **A critical review of literature:** The researcher conducted a systematic and critical review of literature, before the data collection phase. The gaps identified assisted the researcher to bridge them before data collection commenced. A review of the literature continued during and after data collection. Data from national and international sources supported the findings of the current study and the holistic wellness interventions that were proposed by the wellness experts. The literature was grouped into themes and presented as such (Leedy and Ormrod 2021: 270).
 - **Different categories of healthcare professionals and space triangulation:** Data was collected from four sub-samples of healthcare professionals, namely doctors, professional nurses, enrolled nurses and paramedics. They each have their unique scope of practice and job descriptions which differ. They each worked in different research sites but were all exposed to caring for COVID-19 patients. Furthermore, the diverse composition of the focus group, comprised of healthcare professionals from various disciplines and settings with expertise in wellness, further enhanced the validity of the collected data by providing a broad range of perspectives on common holistic wellness interventions. Therefore, the data collected from these sources demonstrated important elements of validity (Leedy and Ormrod 2021: 270; Polit and Beck 2021: 572).
 - **Data collection methods:** Data was collected by interviewing sixty-five participants. Following the analysis of data collected from interviews with healthcare practitioners across four distinct sample groups, a focus

group discussion was convened with wellness experts. Field notes were also made during all the data collection process. All interviews and the focus group discussion were recorded and transcribed before the analysis commenced.

- **Time triangulation:** Data collection spanned twelve months. In that time the researcher observed that there was congruency in the data collected (Polit and Beck 2021: 572). This meant that when the researcher compared the data shared by the participants immediately after the second COVID-19 wave in South Africa, with those shared by other participants ten months later, there were no significant differences noted. Data collection through a wellness-focused group interview employed temporal triangulation, after the subsidence of the COVID-19 pandemic. This timing afforded wellness experts a unique opportunity to comparatively analyze the pandemic's immediate and lingering effects on healthcare workers. Consequently, the insights gained provided valuable input for the development of targeted interventions designed to improve well-being and promote resilience within this critical workforce. This approach allowed for a more nuanced understanding of the longitudinal impact of the crisis.
- **Peer debriefing:** The researcher's Doctoral supervisor is a Professor who has vast experience in qualitative research, as well as health sciences research. She is nationally and internationally recognized and has many research accolades. The researcher shared her data collection experiences, thereby enabling debriefing. Moreover, she presented written analyses of the data at different stages to her supervisor, and she was able to provide expert guidance. The results will be presented and published using relevant platforms. The research supervisor also sat in, as an observer during the focus group discussion with the wellness experts (Polit and Beck 2021: 577; Creswell and Poth 2018: 344).

- **Member checking:** Polit and Beck (2021: 573) described member checking as a process that can be ongoing. The researcher may deliberately use probing questions during the interview process, to ensure that he or she clearly understands the meaning of what was shared. In addition, the researcher may conduct individual member checking interviews once the transcriptions were done (Polit and Beck 2021: 573). During the course of the interviews and focus group discussion the researcher clarified what the participants were saying, by continuously paraphrasing and summarizing their shared information. This immediately solicited feedback from participants and confirmed the factual representation of their contributions. This was evident in the recordings and transcripts.

Moreover, member checking of the interviews was done, with several participants, from each sample. These were recorded so that the researcher could go back to them. In order to ensure the accuracy and validity of the data collected, individual participants were afforded the opportunity to review their respective interview transcripts. This process allowed participants to verify the authenticity of the data captured and confirm that their perspectives were accurately represented (Leedy and Ormrod 2021: 454). The preliminary analyses of the data, i.e. the themes and sub-themes were presented, and the participants were each requested to peruse them. They assessed whether the data they shared was accurately analyzed and captured the true meaning of their experiences. The participants each concurred with the analysis and none of them suggested that any data be removed. Rather they added points that they wanted to mention (McKim 2023: 47 and Fouche, Strydom and Roestenburg 2022: 397).

Additionally, at the end of the focus group discussion, the researcher summarized the contents of the discussion for the participants, who all agreed that the summary of their data shared was accurate (Sabnis and Wolgemuth 2023: 9; Leedy and Ormrod 2021: 271). Furthermore, a

preliminary data analysis of the focus group discussion, was distributed to participants for verification, guaranteeing the correct capture and accurate interpretation of the information (Leedy and Ormrod 2021: 271). Each member was therefore afforded the opportunity to evaluate the authenticity of the data collected and interpreted. All members were satisfied with this process.

3.13.1.2 Dependability

Dependability is described as a substitute to reliability, where the investigator seeks to account for changing conditions in the phenomena chosen for the study. Dependability is achieved if another study can yield the same results, if it is repeated with the same or similar participants and in the same or similar research settings (Creswell and Poth 2018: 336; Polit and Beck 2021: 568). Credibility is reliant on the presence of dependability. To ensure dependability, it is imperative that researchers provide detailed data about the phenomena being studied and the social context in which it is embedded. This would afford the reader the opportunity to independently validate the interpretations made by the researcher (Bhattacharjee *et al.* 2020: 110).

- **Audit trail:** The audit trail for the research encompassed maintaining a comprehensive account of the data collection process and the nature of the data gathered. A log was maintained to document the scheduling of the interviews and the focus group discussion. Each interview and the focus group discussion was audio recorded, and detailed field notes were taken. Additionally, participant reactions were observed whenever feasible, and the interviews and focus group discussion were transcribed word for word. (Fouche, Strydom and Roestenburg 2022: 394).
- **Consistent results:** Data collection for this study spanned one year and the participants had been exposed to various COVID-19 waves by then. Participants who were interviewed at the beginning and those who were interviewed later in the pandemic, shared similar experiences. This timing of data collection with wellness experts post the pandemic, provided these

professionals with a valuable opportunity to observe and analyze the post-pandemic impacts on healthcare workers. Consequently, their contributions to the development of holistic wellness interventions for the proposed program were significantly enhanced and informed by real-world observations. Should there be a pandemic of a different nature, the researcher is confident that the data collection tools will yield similar results, even if the participants and the researchers were different.

3.13.1.3 Transferability

Transferability is defined as the extent to which findings can be transferred or generalized to other findings to or have applicability in other settings or groups (Polit and Beck 2021: 570; Bhattacharjee *et al.* 2020: 111; Fouche, Strydom and Roestenburg 2022: 393). Lincoln and Guba (cited in Polit and Beck 2021: 570) asserted that it is the investigator's responsibility, to provide sufficient data, as this will give the users the opportunity to assess the applicability of the data to other contexts. Therefore, thick descriptions are required to ensure that a party interested in making such a transfer, may be able to conclude whether the transfer can be considered as a possibility (Polit and Beck 2021: 570). These thick descriptions must include a thorough description of the structures, assumptions and processes for readers to independently assess to what extent the research findings can be transferred to other settings (Bhattacharjee *et al.* 2020: 111).

- **Purposive sampling:** Doctors, professional nurses, enrolled nurses and paramedics were purposively sampled due to their work experience, in clinical settings during the COVID-19 pandemic. The selection of wellness experts was also conducted purposively. This approach was employed due to their extensive experience and demonstrated expertise in the field of wellness, allowing for in-depth insights and informed perspectives. The characteristics, inclusion and exclusion criteria and sampling process were described in detail, in an earlier section. Participants were interviewed, until data saturation occurred.
- **Thick data:** There was a logical and clear description of the methodology applied. Thick and dense data was coded and recoded. The interviews

were very intensive and detailed, the participants provided detailed accounts of all their experiences and emotions as their own truths. There was an adequate amount of valuable data collected from the participants to effectively analyse and interpret. The semi-structured interview guide assisted the researcher in using the same questions, during interviews with all healthcare practitioners in the study, despite them working in different healthcare institutions. The focus group discussion guide (Annexure: 17) served as a guide for the group discussion with wellness experts, facilitating the generation of in-depth, multifaceted data regarding holistic intervention strategies. This approach yielded a wealth of rich, innovative information.

- **Rich data:** The researcher provided direct quotations in Chapter four, with the analysis of data, which illustrated the richness of the data. In Chapter five, the perspectives of healthcare practitioners (Table 5.1) and insights from the expert focus group (Table 5.2) regarding wellness interventions were presented. This empirical data was contextualized within a broader framework of existing global literature, providing a comprehensive understanding of the current landscape.
- **Experiences:** Diverse and rich experiences were captured, as the doctors who due to the nature of their work, education and training requirements, had previously worked in rural and urban areas within KwaZulu-Natal and some in other provinces. These participants were all able to share their experiences in settings other than their current working environments. This added value to the study as it proved that even healthcare workers working in different healthcare settings and provinces had similar experiences. This was unique to this study and the instrumental case study allowed for this. The findings of the study could thus also be applied in a global context as the experiences of healthcare workers, may have been similar due to the effects that COVID-19 was having on the world population.

Furthermore, accurate and detailed records of the focus group discussions were preserved. The participants who were interviewed included doctors, nurses and paramedics hence the expert focus group also included wellness experts from these categories of healthcare professionals and additional wellness experts to achieve rigor in the data collected (Table 3.3). This diverse representation facilitated in-depth and nuanced discussions regarding holistic interventions. The group, characterized by its members' qualifications, knowledge, and experience, contributed innovative and practical wellness strategies. Consequently, the proposed holistic wellness program demonstrates potential applicability to all categories of healthcare workers within healthcare organizations, transcending the South African context and holding relevance on a global scale, thereby satisfying the principle of transferability.

3.13.1.4 Confirmability

Polit and Beck (2021: 570) further argued that confirmability referred to objectivity. This has the potential for concurrence between two or more independent people about the data's accuracy, relevance or meaning. It is concerned with confirming that the data actually represented the information that the participants provided and that the interpretations of the data were not manufactured by the investigator, based on his or her own biases, motivations or perspectives. The findings must be representative of the participants' voice (Polit and Beck 2021: 570). In interpretive research, this refers to whether the findings can be independently confirmed by others, most especially the participants. Hence the study's participants must agree with the interpretations of the researcher (Bhattacharjee *et al.* 2020: 111). Confirmability can be achieved by engaging an external coder (Fouche, Strydom and Roestenburg 2022: 394).

- 3 **Reflections:** The researcher kept a journal and reflected on all her experiences after each interview and the focus group discussion, to ensure that she was not biased during the process.
- 4 **Transcriber:** The researcher engaged the services of an independent transcriber who transcribed each recording verbatim. This eliminated the process of bias, as

the transcriber signed a confidentiality clause and had no personal interest in the study, the researcher or sample.

Independent coder: Inter-coder reliability refers to the degree to which two coders work independently of each other and reach a consensus on the coding decisions (Polit and Beck 2021: 789). Inter-coder reliability was used to ensure objectivity in the data analysis. The researcher engaged an independent coder who encoded the data for the interviews with healthcare practitioners and the focus group discussion with wellness experts. The independent coder is a researcher, with a Doctoral degree, with significant experience in qualitative research and analysis. The independent coder signed a confidentiality clause. The researcher and independent coder independently coded the data, subsequently engaging in collaborative discussions to reach a consensus on the final thematic framework, including both major themes and sub-themes (Polit and Beck 2021: 789).

This collaborative process served to enhance the objectivity and rigor of the data interpretation. Finally, the emergent themes and sub-themes were reviewed and validated by the research supervisor. This multi-faceted approach, encompassing researcher reflexivity, independent coding, and expert validation, underscores the commitment to maintaining confirmability and ensuring the overall trustworthiness of the data.

To ensure data integrity and methodological rigor, data collected from healthcare practitioners and wellness experts were encoded separately. The analysis followed a sequential, phased approach. Specifically, data collection and analysis from wellness experts commenced only after the final analysis of the healthcare practitioner interview data was completed. Moreover, the focus group discussion protocol was deliberately designed to build upon the themes and sub-themes identified during the healthcare worker interviews. This approach aimed to create a robust foundation for the development of a targeted and evidence-based wellness intervention.

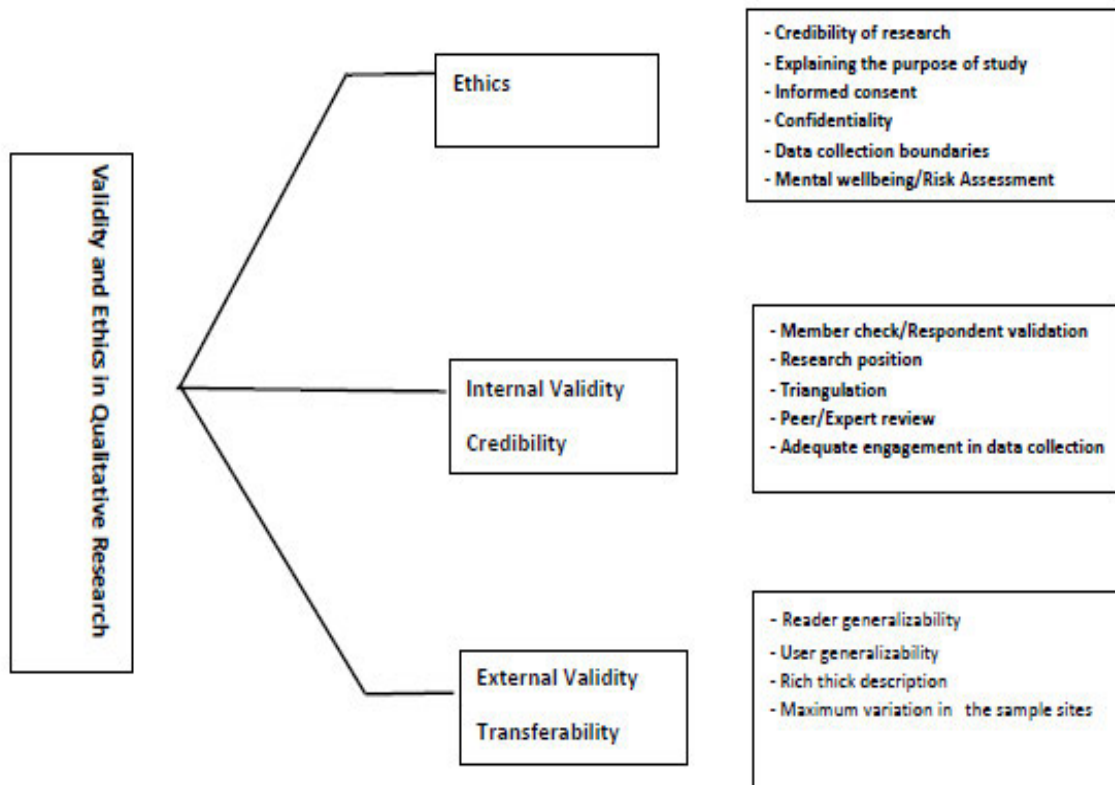


Figure 3.9: Strategies to enhance validity and ethics in qualitative research
(Merriam and Tisdell 2016, cited in Waheed, Kiazai and Bahadur 2020: 129).

The researcher applied the guidelines within the above framework (Figure 3.9) to demonstrate the robust processes that were followed to enhance validity and ensure the adherence to ethical practices, as discussed earlier.

3.14 Validation of data

While the validation of both the interview data and the focus group discussion adhered to similar principles, their respective validation processes will be presented separately in this study. This is due to variances in the composition of the validation panels and the differing timelines under which each process was conducted. To distinguish between the panels they will be referred to as panel 1 and panel 2.

3.14.1 Interviews: healthcare practitioners

The validation of data analyzed in qualitative research is critical, to ensuring the quality of the research findings. Hayashi, Abib and Hoppen (2019: 98) also argued that qualitative research should adopt several validation techniques, to ensure that the researcher analyzed the data accurately and free of bias. The researcher may invite a panel of experts to review the “verbatim transcriptions” or excerpts of the participants against the researcher’s interpretations and findings (McKim 2023: 41).

The researcher validated the data by setting up a panel of eleven health professional experts. The researcher recruited the experts for the validation panel by applying specific inclusion criteria (Sabnis and Wolgemuth 2023: 11). For the purpose of this study the experts who validated the data from the interviews conducted with healthcare practitioners, will be referred to as expert validation panel 1.

Inclusion criteria:

- All panel members had to be qualified healthcare professionals, i.e., either a doctor, nurse or paramedic.
- Clinical practitioners had to be in clinical practice and had to have had experience working with COVID-19 patients in hospitals, tracing and testing teams, in ambulances or in the field hospital.
- Managers in clinical facilities needed to be in their current positions, during the pandemic, with experience in supervising personnel who were working with COVID-19 patients.
- Managers at the district level of healthcare had to be employed, during the pandemic and involved in implementing policies and coordinating activities related to pandemic management.
- Academics needed to have a Doctoral degree, be qualitative researchers and have experience with qualitative data analysis (thematic analysis).

The members of validation panel 1 did not form part of the main sample. A Microsoft Teams (MS teams) meeting was convened during which a portion of the anonymized

excerpts and the data interpretation, i.e. themes and sub-themes was presented as a power point presentation to panel 1. The meeting was recorded with the permission of the panel members, and they were made aware that this was a confidential process. The panel was requested to validate the excerpts, in relation to the corresponding interpretations thereof. They unanimously found that the interpretation of the data was accurate, consistent and objective. Some of panel 1 members who worked as clinical practitioners during the pandemic, went a step further and shared almost identical experiences to the main sample thereby validating the data further. Table 3.6 below presents a summary of excerpts from the MS teams meeting with validation panel 1.

Table 3.6: Excerpts from validation panel 1: interviews

Validation panel (VP) members	Details of panel 1 members'	Sample of responses
VP.1.1	Doctor-manager-researcher-clinical specialist.	<i>"The excerpts were detailed, explaining exactly what happened during the pandemic. You interpreted the data accurately and the themes are clear and well supported by other studies. This study is important as it could help for future pandemics and disasters".</i>
VP.1.2	Doctor-clinical practice	<i>"I want to say that your participants shared is a true reflection of what happened during the pandemic. Your analysis of the data is correct and accurate. I worked at the hospitals during the pandemic and in the tents. It was a very difficult time for us. We received no training on PPE and it was of a poor quality. We had limited resources, difficult to make a decision, who lives, who to intubate, playing God. You felt like you were losing your mind. Moral injury accurate. Therefore your analysis is absolutely accurate".</i>
VP.1.3	Nurse-academic-doctorate-nursing research-qualitative researcher-experienced in thematic analysis.	<i>"The study findings are very well conceptualized and supported. You captured and accurately interpreted, the excerpts of the participants. The healthcare workers were traumatized, by what was beyond their control. A very important study which will provide valuable guidance for the future. The findings must be shared widely, and recommendations shared for the full value of the study to be attained".</i>
VP.1.4	Nurse-academic-doctorate-nursing research-qualitative researcher-experience in thematic analysis.	<i>"Data, was very rich and comprehensive. The excerpts are well supported with national and international studies. You interpreted the data shared by participants accurately. The findings will not be limited to the current study but can be applied to future pandemics and disasters. Members of this committee shared their own experiences which attests to the validity of your findings".</i>
VP.1.5	Nurse-Manager during COVID-19	<i>"Your participants shared exactly what was happening during the pandemic. You captured the data well and your analysis is accurate. I was in a managerial role. The policies and guidelines were very late and unclear. They changed rapidly. One minute they would say fumigate and evacuate if someone had COVID-19. This also caused fear. The next day they would say it was not necessary".</i>
VP.1.6	Nurse-Manager during COVID-19	<i>"I agree with your findings 100%. As healthcare workers mental health is very important and even though time might have gone by, the health department still needs to know about these findings and reach out to healthcare workers. Not often will they admit that they need help".</i>
VP.1.7	Nurse-clinical-nursed adult and paediatric patients	<i>"Well done on your collective data. Findings were accurate. A true reflection of what the participants stated and from my experience. My observation during the time of COVID-19 was that anxiety, depression, fear was a risk factor. Loneliness was the strongest predictor of depression. It was traumatizing. Your participants shared exactly what was happening and you interpreted it correctly".</i>

Validation panel (VP) members	Details of panel 1 members'	Sample of responses
VP.1.8	Nurse-clinical-Specialist- paediatric and intensive care nursing specialist – involved in caring for COVID-19 patients.	<i>"I totally agree with your findings. It actually brings back memories, I nursed the patients. It was very traumatizing. We felt so desperate for the patients. I concur that you interpreted the data shred accurately".</i>
VP.1.9	Nurse-clinical	<i>"I worked during the pandemic and your study brings back many painful memories. You captured what the participants shared well. That was what we actually experienced. The interpretation of the data is accurate, it is the message that the healthcare workers were trying to bring forward".</i>
VP1.10	Paramedic-clinical-Master's degree-experience in thematic analysis.	<i>"An awesome study. I worked during the pandemic. Our experiences were exactly what the paramedics shared with you. It was a very challenging time for us. You definitely interpreted the data accurately. The findings of this study is very important for caring for healthcare workers for future pandemics".</i>
VP.1.11	Paramedic-clinical-worked COVID-19	<i>"Those were difficult days. The participants shared exactly what happened in the pandemic. You also interpreted the data accurately. It brings back memories. It was stressful, driving around looking for hospital beds for the patients. Your study is very important not only for the COVID-19 pandemic but to care for workers for future pandemics and disasters".</i>

The excerpts of validation panel 1 members were extracted from the recording and verified with the handwritten notes. Panel 1 members validated the data as a true reflection of the participants shared stories.

3.14.2 Focus group discussion: wellness experts

The researcher validated the findings of the expert focus group discussion, with five wellness experts. The researcher recruited experts for this second validation panel, which will be referred to as validation panel 2, by applying specific inclusion criteria.

Inclusion criteria:

- Members had to be qualified healthcare professional who had expertise in employee wellness programs, i.e. a doctor, nurse, paramedic, social worker, dietician, employee health and wellness manager.
- Managers in clinical facilities needed to be in their current positions, during the pandemic, with experience in supervising personnel who were working with COVID-19 patients.

- Managers at the district and provincial level of healthcare had to be employed, during the pandemic and involved in the development, implementation, monitoring and evaluation of policies and programs.
- Academics needed to have a Doctoral degree, be qualitative researchers and have experience with qualitative data analysis (thematic analysis) and have expertise in program development, implementation, monitoring and evaluation.

The members of validation panel 2 did not form part of any of the previous samples. To ensure the program's validity, panel 2, comprised of wellness experts representing diverse categories within the field. A Microsoft Teams (MS teams) meeting was convened and recorded with the permission of the members from validation panel 2, who were made aware that this was a confidential process. A portion of the anonymized excerpts from the wellness focus group discussion and the data interpretation, i.e. themes and sub-themes was presented to validation panel 2. The researcher was able to do this as the information shared by the wellness experts was not of a personal or sensitive nature, they were objective holistic wellness interventions, shared for the purpose of developing a holistic wellness program. Thereafter the draft of the holistic wellness program was presented. Validation panel 2 were requested to validate the excerpts, in relation to the corresponding interpretations thereof. Following that they validated the interventions captured in the holistic program.

They unanimously found that the interpretation of the data was accurate, consistent and objective. The interventions captured in the program was a true reflection of the interventions shared by the expert focus group members and was supported by the available literature. The positive assessment of validation panel 2, is further substantiated by their finding that the program is comprehensive and encompasses a diverse range of interventions. Moreover, the panel's (2) review suggested that these interventions are potentially cost-effective, realistically implementable, and feasible within the context of the target environment, thereby strengthening the validation of the program's potential efficacy and practicality. Table 3.7 below presents a summary of excerpts from the MS teams meeting.

Table 3.7: Excerpts from validation panel 2: focus group discussion

Validation panel 2 (VP) member	Details of panel 2 members'	Sample of responses
VP.2.1	Health and wellness manager: Occupational health nurse- programme development, planning, implementation, monitoring and evaluation.	<i>"Well done the wellness programme is good and very comprehensive. It accurately reflects the needs of the healthcare workers and is a true reflection of what the participants and the experts shared with you. The information is accurate and you backed it up well with the supporting literature. The domains and categories are clear and categories are relevant for the domains. Nicely laid out."</i>
VP.2.2	Manager: Dietician-programme development, planning, implementation, monitoring and evaluation.	<i>"Well done, it is such pertinent and brilliant work. You captured what your research participants and the expert group shared and it is supported with your evidence based literature."</i>
VP.2.3	Health and wellness manager: Social worker, EAP- programme development, planning, implementation, monitoring and evaluation.	<i>"This comprehensive biopsychosocial-spiritual wellness programme for healthcare workers covers a wide range of interventions, and it's commendable to see such a holistic approach being taken. I see no gaps you did a good job. You captured the interventions that was shared by the wellness group accurately plus you had global literature that validated the interventions. It addresses the gaps in our Health and Wellness Policy Framework in that it seeks to promote spiritual and biological well-being of employees and it encourages indoor self-directed wellness activities."</i>
VP.2.4	Health and wellness: physiotherapist- programme development, planning, implementation, monitoring and evaluation.	<i>"A comprehensive and balanced approach. It addresses accessibility that is important, which must be emphasized for all staff. It does appear that you captured and interpreted correctly what your samples shared."</i>
VP.2.5	Nurse manager: programme development, planning, implementation, monitoring and evaluation.	<i>"The programme is absolutely intriguing. Covers all aspects of employee wellness. The themes and sub-themes were correctly interpreted and clearly spelt out in the programme. Post the pandemic, staff are still going through this, so the programme is relevant. The interventions provided by the experts were accurately captured in the programme so your analysis was correct."</i>

Furthermore, following the MS Teams meeting, members from panel 2, went over the program again and summarized their responses in WhatsApp messages to the researcher.

To further enhance the rigor and validity of the thematic analysis and ensure alignment with established literature, a senior academic with expertise in qualitative research methodology and international publications was consulted. Although unable to participate directly in the MS Teams meetings due to prior commitments, this academic conducted

a thorough review of the preliminary themes and sub-themes related to holistic wellness interventions. This review considered both the themes that emerged from the healthcare practitioners and focus group participants, and evaluated them against existing scientific evidence. Her expertise in thematic analysis and program development was instrumental in assessing how effectively these themes were captured within the holistic wellness program framework. The academic provided feedback via a structured evaluation form (Annexure: 19) and supplementary email correspondence.

“This holistic program followed a rigorous process of data collection and validation at various stages. The program was developed from multiple sources and validated by numerous experts contributing to its credibility. Well done, there has been a gap in the literature and this program has sought to address the gap and added to the body of scientific knowledge.”

The above added further credibility to the program.

3.15 Ethical considerations

Human beings face ethical dilemmas in their daily lives. Researchers therefore need to be sensitive to this and employ sound ethical principles to ensure that all phases of a study are conducted in an ethical manner. Fouche, Strydom and Roestenburg (2022: 118) described research ethics as a set of precise principles, rules, guidelines and norms that underpin research related behavior, that researchers have declared as proper, fair and appropriate in conducting research. Ethical research serves to protect the rights and dignity of participants. It ensures that the design and conducting of research is valid, reliable, legitimate and representative. Simply speaking research ethics, therefore involves the protection of people being studied (Creswell and Poth 2018: 120).

There are fundamental ethical principles that must be adhered to. The ethical considerations applied to healthcare workers participating in individual interviews were consistently extended to the expert focus group members. Specifically, the same letter of information and consent forms, was utilized for both the healthcare practitioners who were interviewed and the healthcare practitioners who participated in the focus group sessions.

This ensured uniform understanding and agreement regarding the study's purpose, procedures, and data usage across both groups.

3.15.1 Nonmaleficence

Polit and Beck (2021: 133) explained that research conducted on humans have the potential to cause physical, psychological, emotional, legal or economic harm to the participant, that may affect his or her career or ability to earn an income. The fundamental ethical principle of nonmaleficence is that researchers, must do everything possible to mitigate any harm that may arise but maximize benefits to the participants. Simply speaking nonmaleficence means “do no harm” (Fouche, Strydom and Roestenburg 2022: 119). Some questions may evoke emotional responses, but it does not mean that researchers should avoid asking sensitive questions. Rather they should illustrate sensitivity when doing so. Measures must be adopted to mitigate these responses, and the researcher must allow for debriefing at the end of the interview (Polit and Beck 2021: 133).

The current study was of a very sensitive nature, as the participants had to relive many painful experiences such as the suffering, pain and the deaths of many of their patients. They themselves also contracted COVID-19 and became very ill. Many also had colleagues, friends and family who lost their lives to COVID-19. The study therefore evoked emotional responses from many of the participants. Due to the nature of the study, the researcher did anticipate this and had made prior arrangements for debriefing with the participants, post the research interview and to refer the participants who needed further counselling. As per the research proposal the researcher had arranged with the institutional EAP (Employee Assistant Practitioners) and the Occupational Health Manager at the uMgungundlovu Health District, to refer participants who required this assistance and counselling.

On completion of the interviews, the researcher afforded the participants the opportunity for debriefing. Referral of the participants for professional and spiritual counselling, was done outside of the interview audio recordings. This ensured that this information was not included in transcribing the data and maintained the privacy and confidentiality of the participants' personal information.

In addition, most of the interviews were conducted with the participants, in the privacy of their own homes and time, through the use of technological means. Hence those participants who became emotional could compose themselves in private without their work colleagues, observing that they had become distressed. Moreover, work processes were also not affected. During the interviews some participants became very emotional as they had suffered personal and professional grief and had not had the opportunity to deal with those losses. The researcher gave the participants' time to compose themselves and often the interviews were postponed and rescheduled for another day. The researcher did step back and allow the participants to contact her, when they were ready to continue. The participants' proactive engagement in the research process, demonstrated by their initiation of contact with the researcher and willingness to reschedule interview dates, strongly suggests a genuine desire to participate. This initiative mitigates any potential perception of pressure exerted by the researcher and further supports the assertion that their involvement was voluntary and free from coercion. Their actions serve as tangible evidence of their autonomous decision to contribute to the study. A few participants were referred to employee assistance practitioners and some who realized their own needs, sought assistance from private psychologists. Many participants also sought spiritual guidance from their own spiritual leaders.

3.15.2 Beneficence

Research must benefit the participants and others, it must be able to improve research techniques, enhance practical outcomes, benefit researchers and benefit research (Polit and Beck 2021: 133; Fouche, Strydom and Roestenburg 2022: 121). The benefits of the current study outweighed the risks. The study generated knowledge from the experiences of the healthcare workers, which would add to the scientific body of knowledge. In addition, the findings of the study led to the development of a holistic wellness program for healthcare workers, which can be adopted to enhance the well-being of healthcare workers. Other researchers can therefore apply the findings of this study to larger scale studies.

3.15.3 Respect for persons and informed consent

- **Respect for persons**

Respect is the principle that recognizes that researchers need to respect their participants' rights, cultures, worldview, their setting, no matter what they have or believe in (Wa-Mbaleka 2019: 119). Respect for people, means that a person should be treated as an autonomous being. Participants have the right to self-determination. An individual is therefore treated as independent and capable of making his or her own decision, as long as he or she is furnished with sufficient information to do so. Polit and Beck (2021: 134) further explained that participants should not be forced, coerced or deceived into participating in a study. The discussions below provide an expose of how the respect for persons was maintained.

- **Informed consent**

One of the ethical principles that must be adhered to, is that of voluntary consent. This means that participation should be of the free will of the participant. Participants are therefore required to sign a written statement of agreement, after he or she has received all the necessary information about the study. In order to achieve the principle of voluntary participation, participants are required to sign the informed consent (Polit and Beck 2021: 137). Polit and Beck (2021: 137) further explained that statements of informed consent should outline the following, a description of the purpose, procedure and duration of the study. Information related to the benefits, compensation and any potential risks or discomforts that may arise from the study should also be included as well as measures to mitigate or manage risks or discomforts should be in place. In addition, a clear explanation of how the anonymity of the participant and confidentiality of raw data will be maintained should be included. Furthermore, the identification of the researcher should be annotated. A statement that participation is voluntary and that the participant may withdraw at any time during the study without any penalty must be specified. Also mandatory is a statement, that the results of the study will be made available to the participant (Fleming and Zegwaard 2018: 210; Polit and Beck 2021: 138).

To maintain the ethical guidelines for this study, a letter of information (Annexure: 12) that detailed all the above information was given to every participant to read and understand before the interviews commenced. Before each interview, the researcher assessed if the participants understood the contents of the letter of information, answered questions and provided clarity when it was needed. Thereafter the participants who wished to participate at their own free will, signed the informed consent form (Annexure: 13) and returned them to the researcher before the interviews commenced.

The following information was included in the letter of information: namely the title of the study, the name and contact details of the researcher and that of the research supervisor, a brief introduction to the study and an outline of the procedures that was to be followed. The risks or discomforts, duration of time required for the interview, benefits of the study and reasons for withdrawal from the study were outlined. In addition, remuneration, costs of the study and dissemination of findings of the study to the participants. The letter of information also highlighted how confidentiality and anonymity was to be maintained, research related injury and other general information related to the study. The criteria for autonomy and informed consent were therefore achieved.

3.15.4 Anonymity

A research participant's right to privacy should be respected by keeping his identity anonymous. Their name should not appear anywhere in the study (Polit and Beck 2021: 141; Fouche, Strydom and Roestenburg 2022: 124).

To ensure participant anonymity, pseudonyms were employed throughout the study. Each participant was informed that they would be assigned a unique alphanumeric code, representing their profession and individual identifier. For instance, the first doctor interviewed was designated "D.1," the first professional nurse "PN.1," the first enrolled nurse "EN.1," and the first paramedic "P.1." An "F" followed if the participant was a female and an "M" if the participant was a male (e.g. P.1.M., paramedic 1 was a male participant). Similarly, members of validation panel 1 for the healthcare practitioner interviews (doctors, professional nurses, enrolled nurses, and paramedics) were identified as "VPM.1.1" through to "VPM.1.11," with "VPM.1.1" representing validation panel 1's first member. Participants in the focus group with wellness experts were referred to as "FG.1"

through to "FG.12," with "FG.1" denoting the first focus group member. Finally, members of validation panel 2, for the wellness expert focus group discussion, were identified as "VPM.2.1" through "VPM.2.5," with "VPM.2.1" representing validation panel 2's first member. This coding system served to differentiate the various groups involved in the research process while still maintaining participant anonymity.

In qualitative studies it is not possible to maintain absolute anonymity, as the researcher knows who he or she is interviewing. However, the researcher tried not to use the participants' names during the interview. During the transcription of the data the participants' names were anonymized. All transcripts from the interviews and focus group discussion were encoded. Notes that were taken by the researcher did not have any of the names or personal information of the participants' annotated. The researcher explained to all the participants, that none of their names would be divulged to any unauthorised persons, which included their employers. The names of the hospitals were also encoded.

3.15.5 Confidentiality

Although the researcher may know the name of the participant during the interview, in qualitative studies the raw data collected must be safe guarded and not shared with any unauthorised persons (Fouche, Strydom and Roestenburg 2022: 124; Polit and Beck 2021: 141). On appointment of the transcriber (Annexure: 15) and the independent coder (Annexure: 18), the researcher requested that they sign confidentiality clauses. This prevented them from divulging any information regarding the interviews to any person other than the researcher. The confidentiality clause further stipulated that the transcriber and the coder, delete all electronic information on their laptops. It further prevented them from keeping any hard copies or soft copies of the interviews. The independent coder received transcripts that were already marked with unique codes. On completion of the coding, the coder returned all hard copies to the researcher. The raw data pertaining to the recordings, field notes, self-reports, video calls etc. was to be kept under lock and key by the researcher. No unauthorised person had access to this raw data. The raw data will be kept in a locked safe for a period of 5 years and thereafter destroyed. The participants

were also informed that the research report would be written, in such a manner that the reader would not be able to link any information to the participant.

- **Data management**

On completion of the study the raw data and the universal serial bus (USB) used to store data, will be locked in a safe and stored for a period of five years. Thereafter hard copies will be destroyed by shredding same and all data on the USB will be deleted. In addition, the researcher used a laptop that was password protected. All raw data on the laptop related to the study, would be deleted on completion of the study.

3.15.6 Justice

Polit and Beck (2021: 135) highlighted that the principle of justice is related to the fair and equal treatment of all participants. Participants who choose not to participate in a study should not be penalized in any way. Participants were recruited to participate in the study, on condition, that they met the inclusion criteria stipulated for the sample. In addition, participants participated on a voluntary basis. Potential participants who were approached to participate in the study and did not wish to participate, were respected for this choice. Furthermore, the researcher treated all participants with respect and was non-judgemental towards them, irrespective of their life experiences and beliefs. Participants were also informed that they could withdraw from the study at any time if they wished to.

Polit and Beck (2021: 785) further described ethics as a set of moral values that ensure that research procedures follow prescribed professional, legal and social responsibilities, to the participants in a study. They reiterated that institutions where research is conducted, have institutional review ethics committees or boards that review research proposals. This is to ensure that proposed studies adhere to ethical principles and guidelines, before the study is conducted. In essence ethics committees assess, the level of risk of a study to the participants, whether there will be equitable selection of participants, whether informed consent will be taken and whether there are adequate measures adopted to ensure the privacy of the data collected (Polit and Beck 2021: 145; Fouche, Strydom and Roestenburg 2022: 129). Simply ethics committees are in place to ensure that the rights of individuals are protected.

The current study only commenced after the proposal was approved by the Durban University of Technology's Institutional Ethics Committee (Annexure: 11). The study was then uploaded onto the National Health Research Database (NHRD), in order to obtain permission from the KwaZulu-Natal Department of Health Research and Knowledge Management Unit (Annexure: 2). Further gatekeeper approval was accessed from the district manager for the uMgungundlovu Health District (Annexure: 4), the Chief Executive Officer (CEO) of "Hospital 1" (Annexure: 6), the CEO of "Hospital 2" (Annexure: 8) and the district manager for the Emergency Management and Rescue Services (Annexure: 10). The university had ensured that all legal and ethical principles were adhered to. Gatekeepers further ensured that the rights of the participants who were employed at their institutions were protected. Moreover, the researcher did not use the correct names of the hospitals.

3.16 Conclusion

The current chapter described the research methodology that was followed, the design, paradigm, study setting, population and sampling approach. The data collection process, data capturing, analysis and interpretation of the data and how the ethical aspects were maintained were also discussed. The next chapter will present the themes and the sub-themes that emerged from the study, in line with the objectives of the study. There will also be a discussion and interpretation of the findings made, which will be supported by the available literature.

"We are all story tellers. We all live in a network of stories. There isn't a stronger connection between people than story telling" (Jimmy Neil Smith).

CHAPTER 4

ANALYSIS AND DISCUSSION

4.1 Introduction

UBUNTU

“Ubuntu means the essence of human life. It speaks about humanness, gentleness, hospitality, putting yourself out on behalf of others, being vulnerable. It embraces compassion and toughness. It recognizes that my humanity is bound up in yours, for we can only be human together. Do your little bit of good where you are, it is those little bits of good put together that overwhelm the World. We need other human beings in order to be human. I am because other people are”

(Archbishop Desmond Tutu 2021).

Chapter four includes a presentation of the data, and a critical analysis of same. This analysis is supported by scholarly literature to support the findings made. Data collection with the healthcare practitioners, spanned over twelve months due to the various COVID-19 waves, which caused sporadic interruptions in the ability to access participants for interviews. Despite this the researcher was still able to gather rich insights into the experiences of healthcare professionals at the forefront of the pandemic. South Africans, irrespective of their race, religion, culture or social standing are deeply grounded in the spirit of Ubuntu and deeply rooted in the “spirit of serving and helping others.” This was one potential factor influencing healthcare workers commitment and unwavering devotion to serving and caring for patients, who had become ill with the virus.

4.2 Research sample/ participants

The participants included four categories of health care personnel, who were described in detail in earlier chapters. They were doctors, professional nurses, enrolled nurses and paramedics (emergency medical and rescue service personnel). All the participants were recruited from the research sites within the UMgungundlovu Health district, as reflected within Chapter three.

4.2.1 Doctors

All doctors were in possession of an undergraduate degree (Bachelor of Medicine and Bachelor of Surgery: MBChB), with several having pursued a post-graduate qualification. The participants included doctors who specialized in various fields of medicine and surgery (adult and child), registrars in training to become specialists, medical officers, interns and community service practitioners, who were also working in varied fields of medicine and surgery. During the COVID-19 pandemic there was a shift, as most doctors became engaged in working with COVID-19 patients. Some of the doctors had moved from one Province to another, or from one city to another, or from private to public health care institutions and from rural to urban institutions, during this transformative period. These moves became possible, due to the availability of posts required and not as a redeployment of health care workers for the pandemic. Some of the doctors were neophytes who were graduates straight out of university, and consequently totally unprepared for the magnitude of the pandemic.

Whilst the district and tertiary institutions were the research sites, doctors within various categories were able to share data about their previous work environments and make valuable comparisons between tertiary, regional and district institutions. There were doctors who also were able to draw comparisons between the provinces, districts, rural and urban institutions and the public and private sector. Some doctors within the UMgungundlovu Health District also rotated between the hospitals in the district and hence also shared their experiences, thereby enabling valuable comparisons to be made between these institutions in this district. This provided a holistic view of the health care system and added to the richness of the data.

4.2.2. Professional nurses

The second category of health care workers included professional nurses who were clinical specialists in some areas of nursing. Others had undergraduate qualifications but were experienced in working in various departments. The qualifications of these nurses ranged from Diplomas to Higher Education Certificates and Degrees. The sample also included neophyte nurses who were employed as community service nurse practitioners, to work at the COVID-19 sites. They had not worked anywhere else, as registered

professionals previously. Nineteen of these participants were recruited from the district and tertiary hospital and two were recruited from the tracer teams.

These cohorts of professional nurses were all involved in caring for COVID-19 patients and had worked in obstetrics and maternity, neonatology, emergency departments, medical wards, fever tents, COVID-19 wards, which were isolation wards, paediatric wards, intensive care units and primary health care departments and the tracer teams.

4.2.3 Enrolled nurses

The third category of health care workers who made up the sample were enrolled nurses who are restricted in their scope of practice as compared to the professional nurses. During the pandemic all these nurses were employed by the uMgungundlovu health district to work in the COVID-19 tracing teams and the field hospital at the Royal Agricultural Show Grounds (RASG). However, as the need for them in those clinical sites reduced, they were then redeployed to work in the COVID-19 wards in the hospitals, within the district. Most of the participants worked in, at least two clinical sites. These enrolled nurses were also able to share valuable data from the various sites that they were allocated to work at.

4.2.4 Paramedics (emergency medical rescue service personnel)

The fourth category of health care workers were the paramedics who were recruited from two bases within the uMgungundlovu Health District and had various qualifications. One had a degree, others had qualifications in advanced life support, intermediary support services, basic life support, whilst others were emergency care technicians. These qualifications also depict the level of care that these paramedics were capable of offering. As the various peaks occurred, all the paramedics became involved in transporting COVID-19 patients. The transportation of COVID-19 patients was from patients' homes to hospitals, inter-hospital transfers and to the field hospital, they were therefore also able to share interesting data.

4.3 SECTION A

4.3.1 Demographic details of participants

A total of 65 interviews were conducted over a period of one year. The categories of the health care workers and their qualifications, work experience and clinical sites were unique to each category and hence detailed as such. In some instances, certain departments were combined, as the work processes were similar in nature. The details on the tables that follow, assist in providing a clearer view and understanding of the experiences, emotions and psychosocial effects of the pandemic on health care workers. The data across all these healthcare professionals was however, analyzed holistically.

For this study the doctors were identified as D, 1-21, professional nurses were referred to as PN, 1-21, enrolled nurses were EN, 1-10., and paramedics were identified as P, 1-13. The gender of the participant was annotated as M (male) or F (female). For example, D.10.M, meant that the participant was a doctor, number 10, and was male.

The tables that follow, capture the demographic details of the samples.

Table 4.1: Gender and age

Category	Gender		Age				
	Male	Female	20-30	31-40	41-50	51-60	61-65
Doctors (D)	10	11	12	7	2	0	0
Professional nurses (PN)	4	17	7	9	5	0	0
Enrolled nurses (EN)	0	10	3	4	2	1	0
Paramedics (P)	9	4	0	2	8	2	1
TOTAL	23	42	22	22	17	3	1

Table 4.2: Ethnicity and marital status

Category	Ethnicity				Marital status	
	African	Indian	Coloured	White	Married	Single
D	3	13	0	5	10	11
PN	4	15	2	0	11	10
EN	8	0	2	0	2	8
P	6	6	1	0	11	2
TOTAL	21	34	5	5	34	31

4.3.2 Qualifications and work experience

The qualifications or positions held, and work experience of health care workers are summarized in the tables that follow.

Table 4.3: Position held and work experience: Doctors (D)

Category	Qualification				Years of experience									
	Specialist/ Consultant	Registrar	Medical officer	Intern/ Community Service	0-1	2-5	6-10	11-15	16-20	21-25	26-30	31-35	35	
D	6	2	5	8	1	9	4	5	2	0	0	0	0	

Table 4.4: Qualifications and work experience: Professional Nurses (PN)

Category	Qualification in Nursing					Years of experience									
	Degree		Clinical specialty	Diploma	Community Service	0-1	2-5	6-10	11-15	16-20	21 -25	26-30	31-35	35	
	Honours	Bachelor													
PN	1	1	7	19	1	1	4	6	3	4	2	1	0	0	

Table 4.5: Qualifications and work experience: Enrolled Nurses (EN)

Category	Qualification in Nursing	Years of experience								
	Certificate in nursing	0-1	2-5	6-10	11-15	16-20	21-25	26-30	31-35	35
EN	10	0	8	2	0	0	0	0	0	0

Table 4.6: Qualifications and work experience: Paramedics (P)

Category	Qualifications					Years of experience								
	Bachelor degree	Advanced life support	Intermediary life support	Basic life support	Emergency care technician	0-1	2-5	6-10	11-15	16-20	21-25	26-30	31-35	35
P	2	6	3	1	3	0	0	3	1	3	2	3	1	0

4.3.3 Research settings

Table 4.7 below details the clinical placement sites of health care workers during the pandemic. Enrolled nurses from the field hospital and tracer teams were redeployed to hospitals, hence they appear in more than one research setting. For this study the tertiary hospital will be referred to as “Hospital 1” and the district hospital as “Hospital 2”. There was no need to provide pseudonyms for other sites.

Table 4.7: Participants placement at research sites

Category	Tertiary hospital	District hospital	Field hospital (RASG)	Tracer teams	Base 1	Base 2
Doctors	13	8	0	0	0	0
Professional nurses	16	3	0	2	0	0
Enrolled nurses	2	1	2	8	0	0
Paramedics	0	0	0	0	10	3

4.3.4 Family composition, living arrangement and health status of participants and their families

The family composition, living arrangements and health status or presence of comorbidities amongst participants and their families are reflected in Table 4 below:

Table 4.8: Family composition, living arrangements and comorbidities

Category	Type of family		Number of Children			Living arrangements		Comorbidities	
	Nuclear	Extended	0	1-2	3-4	Home	Away from home	Participant	Family
D	12	9	16	5	0	12	9	0	21
PN	10	11	6	15	0	18	3	11	21
EN	2	8	2	8	0	9	1	2	10
P	11	2	1	10	2	13	0	2	13
TOTAL	35	30	25	38	2	52	13	15	65

4.3.5 Comprehensive summary of data in the tables

The tables in the preceding sub-section reflect a summary of the characteristics of the participants. The total participants (N=65) included more female (n=42) than male participants (n=23). This was expected as there were two cohorts of nurses and nursing is a female dominated profession. The paramedics made up the most mature cohort of the overall participants as eleven (84.62%), of them were above the age of 40 years. Hence, they had more years of work experience, compared to the other participants. Ten (77%) of them had over 10 years of clinical exposure.

The doctors made up the younger cohort of participants, as nineteen (90.48%) were below the age of 40 years. It was therefore not unexpected that the doctors had less work experience than the other groups of health care workers. Fourteen (66.67%) had less than 10 years of experience. This younger cohort of doctors reported no comorbidities, whilst more than half the sample of professional nurses (n=11; 52.38%) had comorbidities. Nine (42.86%) of these professional nurses were in the age group 31-40 and five (23.81%) were between the age of 41-50. The age group of the enrolled nurses was well distributed, with only one participant in the age group 51-69 years of age. The rest of this cohort fell in the younger age groups, with only two enrolled nurses sharing that they had comorbidities. All health care workers reported that they had immediate family members who had comorbidities. More enrolled nurses (80%) lived in extended families, than the other participants and more doctors (43%) lived away from their homes, whilst working with COVID-19 patients. The tables also detailed the research sites that the participants were working at during the pandemic.

4.4 SECTION B

4.4.1 Presentation, analysis and discussion of themes and sub-themes

This section of the chapter includes a holistic presentation, analysis and discussion of the themes and sub-themes. They were presented under each of the relevant research objectives. Table 4.9 below illustrates the objectives, the themes and the sub-themes:

Table 4.9 Objectives, themes and sub-themes

Objective 1: To understand how healthcare professionals experienced working at the forefront with COVID-19 patients and the readiness of the healthcare systems for the pandemic.	
Themes	Sub-themes
1. Knowledge of COVID-19 and caring for COVID-19 patients	1. Knowledge of and reactions to an emerging disease 2. First encounters with COVID-19 patients
2. Preparedness of health care institutions	1. Preparedness of physical infrastructure and equipment 2. The availability, quality and use of personal protective equipment (PPE) 3. Education and training of health care workers
3. Personal preparedness of healthcare workers to work during the COVID-19 pandemic	1. Physical preparedness of self 2. Psychosocial preparation of self
Objective 2: To inquire about the physical, psychosocial and spiritual effects of working with COVID-19 patients.	
Themes	Sub - themes
4. Physical effects of caring for COVID-19 patients	1. Physical exhaustion 2. Physiological challenges with PPE 3. Adverse reactions to PPE 4. Sleep disturbances 5. Long COVID-19: health care workers
5 Psychological effects of caring for COVID-19 patients	1. Moral injury among health care workers 2. Secondary traumatic stress of health care workers 3. Concerns about infecting family 4. Concerns regarding the well-being of colleagues who had contracted COVID-19. 5. Professional grief: death of colleagues and their family members
6 The prolonged trajectory of the pandemic and its effects on healthcare workers	1. Compassion fatigue and desensitization 2. Unresolved trauma and the emergence of post-traumatic stress disorder

Objective 2: To inquire about the physical, psychosocial and spiritual effects of working with COVID-19 patients.	
Themes	Sub - themes
7 Personal journey as a COVID-19 patient	1. Self-care at home 2. Health care workers as hospitalized and ventilated patients
8 Social impact of the COVID-19 pandemic	
9. Increased religious and spiritual awareness	1. Salience of religious and spiritual activities 2. Health care workers as spiritual care providers
Objective 3: To explore how working with COVID-19 patients impacted healthcare workers' family life.	
Themes	Sub- themes
10. Impact of the COVID-19 pandemic on the families of health care workers	1. Fear of family members for the well-being of healthcare workers 2. Infection amongst family members and close friends 3. Personal grief following the death of loved ones to COVID-19 4. Lockdown and its impact on spouses, children and parents 5. Financial hardships
Objective 4: To understand what social stigma and discrimination healthcare workers encountered during the pandemic.	
Themes	Sub-themes
11. Social stigma and discrimination	
Objective 5: To explore whether the healthcare system had made provision for the psychosocial support for healthcare workers, and to understand what psychosocial and spiritual systems could have created greater support.	
Themes	Sub-themes
12. Support structures for health care workers and their families.	1. Organizational support received by health care workers 2. Psychosocial support within healthcare institutions 3. Colleagues as a support system 4. Family and other loved ones as a support system 5. Public support

4.4.2 HEALTH CARE PROFESSIONALS EXPERIENCE AT THE FOREFRONT OF COVID-19

The first theme that emerged was:

4.4.2.1 THEME 1: KNOWLEDGE OF COVID-19 AND CARING FOR COVID-19 PATIENTS

Health care practitioners accessed information from a variety of sources which made them aware of the newly evolving disease. This provoked varied reactions regarding COVID-19. The following sub-themes emerged under theme 1:

Sub-theme 1: Knowledge of and reactions to an emerging disease

Sub-theme 2: First encounters with COVID-19 patients

4.4.2.1.1. Sub-theme 1: Knowledge of and reactions to an emerging disease

Awareness of the new virus, emerged primarily from the media as follows:

“I heard about this virus ... through reports on the news and social media ... in China. For personal empowerment ... I watched a few videos off YouTube.” (D.1.M.).

“I was very skeptical ... if there was anything that even existed, I did not think it would come to South Africa ... I thought it was a hoax or like a propaganda.” (D.7.M.).

‘December 2019 ... news ... actually you know, very scared and shocked about what was happening in Europe. We heard of and saw patients being ventilated, patients that were just dying. Heartbreaking ... a first world country was finding it difficult to manage their patients, how scary.’ (D.13.F.).

“It was devastating ... media ... big countries with big infrastructures and working health systems, very robust health systems ... we were worried about what we were going to do in KwaZulu-Natal, where our health system is not as robust. We don’t have that many ICUs.... don’t have the infrastructure they have.” (D.18.F.).

Initially, the doctors in the sample reported that they exhibited a considerable degree of skepticism in their response to COVID-19. They felt it was deceptive, until they realized

the huge implications it had for patients and the healthcare system. What caused huge anxiety was that First World countries were buckling under pressure and were unable to meet the needs of critically ill patients requiring ventilation. This resulted in huge fears that the South African healthcare infrastructure, would not be able to withstand COVID-19. At the onset of the pandemic, there were convincing theories and stories that COVID-19 was a hoax, and that China had deliberately developed it to act as a bioweapon (Silubonde, Knight, Norris and Heerden *et al.* 2023: 4).

Given the limited knowledge available on the virus, many people felt “threatened, uncertain and insecure,” particularly within the context of conspiracy theories that were spreading rapidly (Douglas 2021: 274). This, however, rapidly transformed into a state of huge fear, as doctors watched its lethal spread in first world countries with robust healthcare systems. Hence doctors in the current sample became aware that the South African infrastructure was too fragile to withstand the magnitude and severity of a rapidly evolving pandemic.

4.4.2.1.2 Sub-theme 2: First encounters with COVID-19 patients

South Africa officially announced its first COVID-19 case (Patient 0) on the 5th March 2020 (Jassat, Mudara, Ozougwu and Tempia *et al.* 2021a: 3). After diagnosis, he was admitted to “Hospital 1” within the uMgungundlovu Health District, which represents the case within the current study. One of the first nurses who volunteered to work with COVID-19 patients in South Africa, in March 2020 shared this experience saying:

“I experienced a lot of fear because I wasn’t sure what the Department of Health would do. When I realized that they have been responding in a positive way in terms of safeguarding us ... PPE ... providing directives ... how to demarcate and isolate the hospital. My anxiety was allayed although, there was a lot of fear. We were asked to volunteer, I volunteered ... volunteers were rotated. I wanted to have the firsthand experience, clinically. To see how the disease progressed ... to be able to help with people that were so terribly scared, extremely stigmatized ... to understand how they felt. I also nursed a young man, a 20-year-old, he was the second patient ... of the cruise ship who was positive. He was scared ... the entire community saw him being taken away with an ambulance. I am not ICU trained ...it was very scary.” (PN.16. F.).

One of the doctor's on call when Patient 0 was admitted, experienced similar feelings of anxiety and said:

"I was on call that first night in ICU, I was quite anxious and nervous because I didn't know what would happen. Not knowing what we would be expected to do and what would be needed from us, created anxiety for me. As guidelines became available ... we each knew ... our role to play ... felt better." (D.5.M.).

Moreover, patient 0, was transported by ambulance to "Hospital 1". The paramedics shared feelings of helplessness, saying they were totally unprepared to transfer this patient to hospital.

"That first case was supposed to be transported by the uMgungundlovu District [EMRS] and we didn't know anything ... how to attend to the patient. We are lifesavers we pushed ourselves. After that ... we knew ... that we were supposed to have PPE. We don't even know how to wear PPE, how to it take off. It was a very traumatic experience in uMgungundlovu ... we didn't have any equipment." (P.1.M.).

As reflected, the doctors, nurses and paramedics were all afraid and ill-prepared to work with this insidious virus but understood their ethical duty to uphold patient care. The nurse felt comforted by the measures being put in place by the Department, particularly the provisioning of PPE. Despite her fears, her desire to learn how to manage such patients clinically, helped allay her fears. Both the doctor and paramedic shared their ill-preparedness, but the provisioning of guidelines helped ease their anxiety. It must be noted however that this was at the onset of the pandemic, when patient numbers were low. These guidelines and the availability of PPE however fell short, following the massive increase in patient numbers that followed.

These huge levels of unpreparedness resonated with other studies. Health care practitioners reported feelings of deep uncertainty when caring for patients during the first wave of the COVID-19 pandemic, but their ethical duty to serve helped them to transcend the fear they were experiencing (Stavropoulou, Rovithis, Sigala and Moudatsou *et al.* 2022: 6). In Jordan, nurses also continued to volunteer to work with COVID-19, saying that they wanted to confront "their fears, "and "taking the risk and facing the unknown

helped relieve the pressure and stress.” As time went on and protocols became available, their fears were allayed (Almomani, Khater, Akhu-Zaheya and Alloubani *et al.* 2022: 5). The next theme that emerged focused on the preparedness of health care institutions.

4.4.3 THE SOUTH AFRICAN HEALTH CARE SYSTEM

4.4.3.1 THEME 2: PREPAREDNESS OF HEALTH CARE INSTITUTIONS

Once Patient 0, was diagnosed, South African health care institutions had to respond earnestly to this public health threat, by rapidly engaging with and preparing their resources to accommodate a burgeoning influx of COVID-19 patients. The components of a health system to manage a pandemic include its physical infrastructure, equipment, the availability of PPE and human resource readiness. They are reflected in the sub-themes that follow:

Sub-theme 1: Preparedness of physical infrastructure and equipment

Sub- theme 2: The availability, quality and use of personal protective equipment (PPE)

Sub- theme 3: Education and training of health care workers

4.4.3.1.1 Sub theme 1: Preparedness of physical infrastructure and equipment

Infrastructure refers to fixed buildings such as hospitals, the field hospital set up at the Royal Agricultural Show Grounds and the fever tents that were erected in the parking areas of hospitals. The equipment comprised ventilators, intensive care unit beds, pulse oximeters, and similar devices. The participants described the preparedness of health care institutions saying:

“The place where people would isolate ... converted ... one of the clinics into an isolation zone. We have smaller wards, they did try their best to maintain social distancing and so on. I think they were fairly well prepared.” (D.15.M.).

“I was part of the planning committee. “Hospital 1” was a designated site [flagship hospital] ... we were using the guidelines used for Ebola ... how to isolate this person. Somewhat prepared as the numbers increased ... we created a dedicated COVID-19 ICU in our main

ICU. In 2019 ... we had planned to increase the ICU bed status to 21 from 11 ... we had ventilators ... those plans were implemented now.” (D.18.F.).

“Infrastructure ... was 80% ready ... antenatal clinic ... a viral hemorrhagic fever ward ... good ventilation ... that was converted into a COVID ward. So it was meeting the basic requirements for isolation nursing where the patient could be kept separately and the nurses could don and doff to be safe.” (PN.1. M.).

The escalation in COVID-19 cases prompted healthcare workers to rapidly repurpose existing wards and facilities into areas of isolation to care for ill patients. Most participants referred to “Hospital 1,” where the existing infrastructure, was repurposed and alterations made to the ICU. One of the doctors, D.15.M, described how existing wards were rearranged to meet COVID-19 protocols, to maintain social distancing and used as COVID-19 wards. Even though the wards were not large, the hospital still managed to maintain safety precautions. A nurse, PN.1.M, shared that the existing antenatal clinic, that was previously equipped to isolate a viral haemorrhagic fever patient, was converted into a COVID-19 isolation unit. This unit was suitable as it had the appropriate ventilation system, which was crucial to managing COVID-19 patients. It also had a dedicated place for health care workers to safely don and doff PPE, which was mandatory to protect the health care workers. Whilst these participants believed that they were somewhat ready, the lack of dedicated isolation facilities in the event of emergencies captured the unpreparedness of the South African (SA), healthcare system for the deluge of patients that were to follow. It reflected the need for stakeholders to consider in earnest how hospitals and other facilities would need to have the requisite facilities and equipment to meet the demands of highly contagious diseases such as COVID-19 and prepare health care staff to manage such high numbers of critically ill, infected patients.

A senior doctor, D.18.F, in the sample who was also part of the planning committee, shared that the ICU already had plans, in the year prior to the pandemic, to increase its bed capacity. Hence, they had procured ventilators which were in storage waiting to be used. However, the COVID-19 pandemic accelerated the implementation of these plans, reflecting the need for similar plans to be implemented at other healthcare institutions. The international context did not differ markedly from the local context, as a scoping

review found that many international hospitals were similarly unprepared, but began remodeling their existing infrastructure (Ndayishimiye, Sowada, Dyjach and Stasiak, *et al.* 2022: 7). The departments that were mostly affected, were the outpatient departments, emergency departments and intensive care units which suggests that these are the areas requiring prioritization in South Africa as well. The bed capacity of ICUs was increased either within the hospital or outside the boundaries of the hospitals (Ndayishimiye *et al.* 2020: 7).

In other studies, across Europe, Indonesia and India, healthcare authorities were forced to adapt and increase the capacity of their existing physical infrastructure to ensure adequate space for isolation wards and intensive care beds (Winkelmann, Webb, Williams and Hernandez-Quesvedo *et al.* 2021: 363; Asmaningrum *et al.* 2022: 255; Mahajan *et al.* 2020b: 189). In Iraq, isolation facilities were identified as the country's designated COVID-19 facilities. Each of these hospitals identified designated quarantine sites and had to prepare for an influx of COVID-19 patients (Hossain, Al-Dahir, Hilfi and Majeed *et al.* 2022: 2).

“Hospital 1” within the case, was similarly identified as the flagship hospital, to admit COVID-19 patients, as it had a well-equipped ICU, isolation unit and was staffed with specialist nurses and doctors and hence was better positioned to receive COVID-19 patients. In addition, the planning committee used the existing Ebola isolation guidelines to prepare the isolation unit, as there were no specific guidelines for COVID-19 at the onset of the pandemic. This suggests again the need for greater deliberation with regards to preparing healthcare systems for future pandemics.

The lack of preparedness within the S.A. context was more vociferously articulated by participants who were more directly involved with patient care. The medical doctors and a professional nurse who had worked in different institutions across the district, the province and the country during or before working at the current research sites, were able to make comparisons between the various institutions saying:

“I don’t think that we were prepared ... we saw what was happening overseas, we did not think that the same thing would happen to us. I was working in the emergency department, [KZN-South Coast]. There was a shortage of beds, the wards were full ... social distancing

... capacity was lessened. There was a lot of overcrowding ... very risky for patients. When I came to Pietermaritzburg this hospital was better prepared, in the ICU.” (D.13.F.).

“It was trial and error; beds were not enough for patients. Tertiary hospital ... I felt like they were better prepared ... the District hospital, was very poorly prepared and this is because of the physical infrastructure and also the general preparedness.” (D.17.M.).

“At an HOD [head of department] meeting ... we were informed that there is a COVID-19 patient ... we need to prepare. We had planned to have one cubicle ... isolation area ... to equip with enough equipment to run one ICU patient.” (D.18.F.).

“In Mpumalanga, a rural hospital in a small town ... we were very scared ... locked down, one road in and out ... not prepared at all. The management were not proactive rather reactive in a way ... our resources weren't near enough, no equipment, no pulse oximeters, we did not have ventilators, ICU beds. At “Hospital 1” it is ... different ... medicine department is a very organized group. COVID areas were zoned off, to the H wards.” (D.20.M.).

“I don't think my institution was well prepared. It would rain and wet paperwork ... unbearable, flooding, no proper lighting, no equipment, extreme heat in tents ... the patients could not manage the temperatures. I felt angry.” (PN.3. F.).

“No we were not prepared ... our hospital ... tarp tent ... donated to the hospital ... freezing cold at night ... no equipment ... so sad. There was no directive or guideline on what the fever tent should be and how it should be erected.” (PN.13. F.).

These narratives capture the stark realities of healthcare facilities that became overwhelmed by this insidious virus. As reflected, one of the hugest challenges confronting the healthcare workers, was the dire lack of bed space, which consequently led to overcrowded wards, and the inability to isolate patients from each other. This heightened the risks not only for patients, but also the healthcare workers themselves. Smaller hospitals could not create adequate isolation space, which would have meant that those critically ill with COVID-19 would need to wait for bed space, thus increasing the risk of spreading the virus to others. Hence whilst the flagship hospital had some level of preparedness, other hospitals grappled with poor infrastructure.

The fever tents experienced significant challenges due to inadequate lighting, insufficient equipment, and extreme temperature fluctuations, all of which adversely impacted the quality of patient care. Furthermore, the substandard construction of the tents resulted in documentation getting wet during inclement weather conditions. This reflects the plight of under-resourced facilities, amidst a virus that was transcending all geographic and socio-economic boundaries. At other facilities, healthcare staff attempted to prepare for the pandemic, but did so in a reactive manner. This was especially apparent in a rural hospital in South Africa that was significantly lacking in resources and had not sufficiently prepared for the pandemic. Of huge concern was that the flagship hospital had just one cubicle to accommodate one ICU patient, in the isolation unit. This reflects that both the government and healthcare authorities had underestimated the magnitude of the pandemic.

The unpreparedness for the pandemic was evident within literature as well. Khalil, Mataria, and Ravaghi (2022: 3) emphasized the necessity of transitioning from a “reactive and responsive” approach to one that is “preventive and proactive” in terms of contingency planning. This assertion underscores the importance of establishing preparedness measures, prior to the emergence of a crisis rather than in its immediate aftermath. Similarly, in the Eastern Mediterranean Region (EMR), preparations were initiated only after the first case was confirmed (Khalil, Mataria, and Ravaghi 2022: 3). This pattern appeared to be mirrored in South Africa, as revealed by the current study.

Preparation for the pandemic in rural counties in the United States, such as Missouri, Arkansas, Mississippi and West Virginia, which have rural spaces, similar to the local context, were also found to lack critical care facilities and ICU beds for patients requiring these services (Davoodi, Healy and Goldberg 2020: 5). Researchers pointed out that if hospitals in urban areas filled up, there would be no beds available to receive transfers from rural hospitals. This suggests that rural hospitals should also be prioritized in terms of capacity (Davoodi, Healy and Goldberg 202: 5). COVID-19 cases also rapidly increased in Italy, in early 2020 and authorities reported that they were struggling to free up ICU beds for patients (Tondo 2020). In Kenya officials also lamented the lack of adequate intensive care units and isolation beds for COVID-19 patients. One doctor shared that COVID-19 patients were being cared for in a large hall (Korir 2021). The

disjuncture in terms of capacity within urban and rural hospitals appears to be common across the globe. It warrants that greater attention be devoted to upscale facilities and staffing requirements, in more disadvantaged spaces, where socio-economic conditions create a more fertile space for the spread of diseases.

South Africa endeavored to create space, by investing in fever tents, with the intention of using these tents to screen and triage patients during the pandemic. On the 16 September 2020, the “Times Live” shared that Gauteng had set up 26 fever tents to screen patients for COVID-19 (Njilo 2020). On the 11th January 2021, the Daily Maverick however reported that doctors in Gauteng, had voiced huge concerns about the management of fever patients in these tents, almost 10 months into the pandemic (Mohamed 2021). The doctors reported that people were dying in the tents. “We can’t take any of these patients into the hospital. So, any patient that we think has COVID cannot go into the hospital, unless they are negative. That’s why they heap up here (in the tents)” (Mohamed 2021). This was reinforced by two of the nurses, PN.3.F, and PN.13.F, who described the poor conditions within the fever tents at two different hospitals.

COVID-19 illuminated the deep gaps and fragility of the healthcare system in South Africa, not only due to the lack of intensive care unit beds, but also ventilators, pulse oximeters and protocols to standardize practice. This coalesced into overcrowding in the emergency departments and fever tents and potentially higher infection rates of COVID-19. These deficiencies also led to moral dilemmas in terms of who should be prioritized in terms of care. The inadequate preparation, exemplified by the flagship hospital that was equipped only to admit a single ICU patient, highlighted significant deficiencies within South Africa's healthcare system. This situation underscored the need for local authorities to urgently adopt a more proactive strategy aimed at fortifying health systems, ensuring they are capable of managing the challenges posed by potential future outbreaks of infectious diseases. The sub-theme that follows focusses on the availability, quality and use of personal protective equipment (PPE).

4.4.3.1.2 Sub-theme 2: The availability, quality and use of personal protective equipment (PPE)

Several participants expressed a sense of security, attributing this feeling to their perception of having received sufficient and high-quality personal PPE.

- **Availability and quality of PPE**

“Little boxes were prepared with PPE so that when doctors from the ICU team had to go to the ward to intubate a patient they would carry a box with PPE.” (D.5.M.).

“I realized that they've been responding in a positive way in terms of safeguarding us ... in terms of the PPE or the protective gear that has been provided ... in the first wave.” (PN.16.F.).

“With the PPE ... was good.” (P.3.M.).

A portion of the participants expressed the belief that they were provided with sufficient and good-quality PPE during the initial wave of the pandemic. They perceived that their well-being was being addressed and that their safety was a primary concern. Additionally, several individuals involved in the present study reported a positive assessment of the quality of their PPE. This observation was significant, as it is crucial for healthcare professionals to have access to adequate and high-quality PPE to safeguard them against potential infections in their work environment.

Similarly, a study conducted in the United Kingdom revealed that 35% of participants reported having access to personal protective equipment (PPE) (Martin, Pan, Nazareth and Aujayeb *et al.* 2022: 10). Additionally, two studies from Ethiopia indicated that healthcare workers had access to PPE at rates of 34% and 46%, respectively, and reported positive experiences with its use (Chaka, Mekuria and Melesie 2022: 2317; Deressa, Worku, Abebe and Gizaw *et al.* 2021: 9). This information suggested that individuals in a Western context experienced similar levels of access and quality of PPE, as those in an African context.

Most of the participants, however, were dissatisfied with the availability and quality of PPE, saying:

“Sometimes you have to reuse the same mask because we were quite rural we didn't have resources. N95 mask, they are quite expensive, we got one a week. We weren't getting PPE ... we fought for PPE. We wore ... lab coats and a visor, and sometimes the hospital did not have water, things like that. I did get COVID.” (D.20.M.).

“If I wore goggles ... I would never see what I was doing. The glasses were loose and falling off my face ... if someone else wore it, it is stretched.” (PN.10.F.).

“K95 masks, which even stated on the boxes that they were not for medical use. We bought proper N95 masks and use it for our own protection. They were happy to send us in like that ... it was very upsetting. It is their duty to supply the proper PPE and they don't live up to that.” (PN.11.F.).

“No PPE ... staff got charged for not wanting to do the case...they had a very valid reason for not doing the case ... the department had so much money and they didn't even buy us PPE's was frustrating.” (P.11.M.).

As the pandemic advanced and the demand for personal protective equipment (PPE) surged, it became evident that there were significant challenges in ensuring the supply of high-quality PPE. Numerous participants reported not only the absence of personal protective equipment (PPE), but also the troubling practice of utilizing a single N95 mask for an entire week. A doctor expressed that they had to “fight” for access to PPE, which should be regarded as a fundamental human right for their protection. The case of a participant who reused his mask and subsequently contracted COVID-19 suggests that such prolonged use likely compromised the mask's integrity, thereby heightening his susceptibility to infection. Furthermore, due to the insufficient supply of PPE, they were instructed to refrain from discarding their protective gear.

Additionally, healthcare workers had to share goggles, as noted by one participant (PN.10.F.). This practice resulted in poor fitting PPE. The reuse and sharing of PPE, although inherently risky, became a prevalent practice, thereby increasing the vulnerability of healthcare workers to potential infections. One of the nurses, PN.11.F, who was unhappy with the quality of N95 masks, was forced to purchase her own masks for work. This situation underscores the perilous limitations that healthcare workers faced,

in providing care for COVID-19 patients, all whilst jeopardizing their own health. The global shortage of PPE during the peak of the pandemic has been extensively documented in the scholarly literature (Alharbi, Jackson and Usher 2020: 2762; Bhaskar *et al.* 2020: 2; Shechter *et al.* 2020: 3)

The deficiency of high-quality personal protective equipment (PPE) has similarly affected healthcare professionals in various international contexts. A comprehensive study involving participants from the United States, Canada, Italy, and Spain revealed that healthcare workers were compelled to reuse PPE. Specifically, many reported reusing their N95 masks for periods extending up to three days, despite these masks being intended for single-use only (Kea, Johnson, Lin and Lapidus *et al.* 2021: 8). This practice of repeated PPE usage diminished its effectiveness, consequently heightening the risk of infection among healthcare workers. Additionally, some healthcare professionals resorted to purchasing their own PPE and bringing it into medical facilities for personal use (Kea *et al.* 2021: 8). In addition, numerous researchers observed that PPE often did not fit appropriately, with many items being excessively large and prone to movement during the execution of tasks (Janson, Clift, and Dhokia 2021: 3; Deressa *et al.* 2021: 7; Martin *et al.* 2022: 11).

McQuoid-Mason (2020: 3) stressed that South African healthcare professionals must advocate for safe, high-quality personal protective equipment (PPE) to ensure their safety, as employers are responsible for providing a secure work environment. Employees have a constitutional right to workplace protection and can refuse to care for COVID-19 patients if they lack adequate PPE, although such refusals are generally discouraged. This is vital for the safety of both healthcare staff and patients (McQuoid-Mason 2020: 3). A paramedic, P.11. M, shared that colleagues who voiced their concerns about insufficient PPE, faced disciplinary actions after declining to work with COVID-19 patients due to this lack of protection. This resulted in a decreased morale among this category of healthcare workers.

The unavailability of sufficient personal protective equipment (PPE) raised significant concerns regarding the safety of healthcare professionals and cast doubts on the healthcare system's capacity to mitigate the risk of hospital-acquired infections among

these workers. Hospitals could serve as breeding grounds for contamination, potentially facilitating the transmission of COVID-19 to the broader community, while healthcare workers may have inadvertently taken the infections home to their families. Therefore, prioritizing the provision of PPE for frontline healthcare personnel during disease outbreak is essential. Evidence indicates that healthcare workers were inadequately protected throughout the pandemic, with many having likely contracted COVID-19 due to insufficient PPE. Consequently, it is imperative for the South African healthcare system to integrate strategic planning for PPE provisioning to reduce the risks associated with its shortages and strategize and develop policies that would ensure adequate and quality PPE for future pandemics.

- **Use of Personal protective equipment**

Numerous participants had not previously encountered the use of personal protective equipment (PPE), which necessitated the provision of training and explicit guidelines.

“Donning and doffing PPE, it was a demonstration, no practical training.” (D.3.M.).

“The infection control and prevention department and the clinical teaching department did training, the shift is 12 hours, they would come ... twice a shift to give us information on personal protective equipment that we were required to use ... we were given strict guidelines and demonstrations, physical demonstration on donning and doffing.” (PN.16.F.).

“They gave us a video on how to wear our PPE.” (EN.8.F.).

Several participants indicated that they had undergone some type of training, primarily consisting of demonstrations regarding the proper use of PPE. This training was conducted at the beginning of the pandemic. In a broader international context, healthcare professionals in Ireland reported having received comprehensive training on the procedures for donning and doffing PPE (Cahill, Kay, Howard and Mulcahy *et al.* 2022: 2). Approximately 46% of the participants completed this training within six months, while 76% had prior experience with wearing PPE (Cahill *et al.* 2022: 2).

In India, a train-the-trainer approach was implemented to enhance the skills of healthcare workers, in the proper techniques for donning and doffing personal PPE (Wundavalli, Singh, Singh, and Satpathy 2020: 2). Those who received training were tasked with instructing small groups of healthcare workers daily. Regular observations were conducted to assess the healthcare workers' performance using a standardized evaluation tool for donning and doffing. Any identified errors were promptly addressed and corrected (Wundavalli *et al.* 2020: 4). The manner in which the procedures for donning and doffing PPE were presented for the current sample, without adequate feedback, suggests that local healthcare personnel may not have fully understood how to use the equipment correctly.

A more pressing issue was the presence of participants in the current study who had not received any training, even though they were already engaged in work with COVID-19 patients. They shared their experiences as follows:

"I wish I was taught the basic donning and doffing first of all, it would have been nice, it is not something that we did every day and you have to get it right." (D.13.F.).

"Donning and doffing ... IPC manager, came and gave us our things to put on our wall as to how to don and doff, no demonstrations, no training. There were times where you will hear people say, you don't need to discard everything you can reuse it and me personally, I will challenge that and say if I swabbed five people ... I will discard. I did have COVID." (PN.13.F.).

"After a couple of months of donning and doffing, whether it was correct we don't know, we came to the nursing college and had donning and doffing demonstrated to us. From the EMS [emergency medical services] side there was nothing." (P.12.M.).

The narratives reflect the significant risks faced by healthcare workers due to a lack of training, regarding the proper use of PPE. One nurse contracted COVID-19, likely because of inadequate protective measures. Healthcare professionals depend on PPE not only to safeguard their own health and that of their patients but also to prevent the transmission of infection to others. In Pakistan, approximately 68% of healthcare practitioners indicated that they had not received any training regarding PPE usage (UI

Haq, Sher, Khattak and Zala *et al.* 2023: 1). Furthermore, around 37% of physicians and 27% of nurses reported having received prior training on PPE, while only 17% of paramedics, who are often the first responders, had undergone such training. Adequate training in the use of PPE is crucial for enhancing the safety of healthcare workers, minimizing the risk of infection, and improving compliance with infection control measures (UI Haq *et al.* 2023: 3). The existing literature and current data indicated that paramedics have undergone the least amount of training, as first responders, and their training had not been afforded the necessary priority.

A study conducted in Ethiopia revealed that approximately 62% of healthcare practitioners had undergone training in the proper use of PPE, while a similar percentage of participants demonstrated inadequate practices regarding PPE utilization (Birhanu, Balis, Yadeta and Bayu 2021: 5). The poor use of PPE appears to be directly related to the lack of training, which inevitably places healthcare workers at greater risk of infection (UI Haq *et al.* 2023: 3; Birhanu *et al.* 2021: 5). Evidence from a Brazilian study suggests that healthcare workers who underwent training on the use of PPE through online methods and or face to face simulation, had a lower risk of contracting COVID-19 (Couto, de Toledo Rodovalho Menezes, Silva, Hashimoto and de Souza *et al.* 2023: 5).

The evidence indicates that healthcare professionals faced significant vulnerabilities during the pandemic, with numerous individuals likely contracting COVID-19 because of inadequate PPE and insufficient training. Consequently, it is imperative for the South African healthcare system to prioritize strategic planning for the supply of PPE and to address the risks linked to its shortages. Ensuring sufficient production, distribution, and thorough training in the use of PPE, could have reduced the likelihood of infection among healthcare workers, thus safeguarding their capacity to function effectively and maintain the integrity of the healthcare system.

4.4.3.1.3 Sub- theme 3: Education and training of health care workers

The third sub-theme that emerged focused on the education and training of healthcare workers related to pandemic management. They shared their views on the training they received as follows:

“Initially we had lab training on COVID swabbing, there were no guidelines, then intermittent guidelines, and treatment plans, then trained ... lecture formats. Shared new protocols and articles online, we learnt on the go. We were rotated in the COVID areas.” (D.4.F.).

“During the second wave, Department of Health websites. I used the Knowledge Hub, there were very good webinars, national and international. They became less useful as they were scheduled at a time when we were expected to be seeing patients ... morning around 10: 00. Some done by senior clinicians in South Africa ... people would present cases, articles ... then we also gave one or two of those lectures.” (D.18.F.).

“We also had in-house training here in ICU ... with intubation we had to learn how to use the head box.” (PN.5.F.).

“Before we received patients, the district office taught us about infection control, how to protect myself, how to protect the people around me, washing hands.” (EN.6.F.).

Several participants reported receiving some training on the new disease, how to manage COVID-19 positive patients and to protect oneself and others. This training appeared to evolve as the pandemic unfolded, with an emphasis on treatment plans. However, it appeared to be fragmented and lacking in structure, thereby failing to adequately equip healthcare professionals to address the needs of critically ill patients. The challenging time constraints hindered healthcare professionals from participating in online training programs. Scholars have emphasized that healthcare workers required sound knowledge of COVID-19 to practice safely during the pandemic (Al-Faouri, Hayajneh, Al-zoubi and Yusef *et al.* 2021: 3).

Health training, along with access to essential protocols and guidelines, were vital for equipping healthcare professionals with accurate information (Al-Faouri *et al.* 2021: 4). Hettle, Sutherland, Miles and Allanby *et al.* (2020: e41) lamented that numerous medical practitioners in the United Kingdom, found themselves in unfamiliar work environments during the COVID-19 pandemic. A training course designed to prepare them for treating COVID-19 patients significantly enhanced their readiness, to engage in clinical scenarios involving infected individuals (Hettle *et al.* 2020: e43). There was a rotation of medical

personnel in COVID-19 units, which allowed staff to encounter diverse clinical situations. This underscores the necessity of creating training programs that will empower healthcare personnel, to effectively respond during future pandemics.

Adams and Walls (2020) highlighted the importance of training healthcare workers in infection control for their safety. Yo, Witjaksono, Fitriani and Werdhani *et al.* (2021: 87) also advocated for webinars, a valuable educational resource, especially for busy practitioners, enabling broad access across regions. Participant D.18.F, noted that training included national and international webinars, fostering knowledge exchange and peer presentations. However, scheduling conflicts with ward rounds and time zone differences hindered attendance. Doctors, particularly in anesthetics and intensive care, received more comprehensive training. Nurses working in ICU were also prioritized with regards to training. However, regardless of their roles, all healthcare workers must be prepared for future pandemics.

It is evident from this study that many participants received very little to no training. The narratives that follow capture the unpreparedness of most of the doctors and nurses to work with COVID-19 patients and use the ventilators effectively.

“In “Province 1” it was mostly self-driven. The ventilator and the Hi-flow we had reps come in ... it was very short and difficult to get the gist of how to use the machine. Most of my patients, management ... like a trial and error ... there was no formal lectures or tutorials or demonstrations. It is different here at “Hospital 1” ... there is also a lot of difference between a tertiary and a district hospital or a provincial hospital near a rural area versus a huge metropolitan ... the difference is vast.” (D.20.M.).

“Only COVID-19 nurses ... who were employed were trained ... I had no training.” (PN.12.F.).

“There was no training, the PUI ward was full ... later positive patients ... we had to go into Google.” (PN.15.F.).

“They asked “Hospital 1” to accommodate us but the job is not the same. We are going to the house, we don’t know what to do ... the Department never teach us.” (P.7.F.).

“We were caught off guard with no training and no knowledge. Majority refused to do the first case ... everyone was afraid.” (P.12.M.).

As evidenced in the narratives, self-directed learning seemed to be the path that many followed, in the absence of formal training programs, related to caring for COVID-19 patients and the use of the ventilators. This unpreparedness inevitably affected patient care which potentially may have jeopardized their ability to respond to life threatening emergency situations. As one of the paramedics shared, many of their colleagues were afraid and were refusing to go to homes, where the transport of a COVID-19 patient was necessary. The South African context resonated with the experiences of those abroad. Ting, Chan, Chan and Hildon (2022: 14) reported that healthcare workers in Singapore, had expressed the need for training on how to be sufficiently prepared to work during a pandemic, to respond effectively to emergencies, infection control, lifestyle and behavioral practices. In Bangladesh, a lack of knowledge about the virus and basic training led to an increased workload, for those willing to work with COVID-19 patients and amplified the psychological stress of healthcare workers (Razu *et al.* 2021: 5). Koontalay, Suksatan, Prabsangob and Sadang (2021: 3023) concurred with Razu *et al.* (2021: 5), that a lack of training increased the psychological distress of health care workers.

This lack of knowledge not only placed these doctors, nurses and paramedics at higher risks of personal infection, but challenged the ability of health care systems to respond to a growing crisis. The poor confidence in managing both suspected and confirmed COVID-19 patients undeniably influenced patient outcomes. In addition to patient care, healthcare workers such as those in rural hospitals, who were not sufficiently capacitated were at higher risk of increasing the transmission of COVID-19 amongst patients and themselves. Healthcare professionals employed at "Hospital 2" seemed to possess fewer competencies compared to their counterparts at "Hospital 1." This observation underscores the disparity in the training provided to healthcare personnel across the two tiers of hospitals. Proper training, knowledge, and resources are crucial for the prevention of hospital-acquired infections. Insufficient knowledge, combined with a deficient local healthcare infrastructure, may have contributed to the rising incidence of these infections.

South African researchers also stressed that it was imperative for health care workers to attend ongoing training sessions and familiarize themselves with policies to reduce the risk of COVID-19 infection (Dramowski, Zunza, Dube and Parker *et al.* 2020: 1). A nurse, PN.15.F, who worked in the tertiary institution and commenced nursing COVID-19 positive patients later in the pandemic, alluded to not having had any training. Had the institution implemented regular training sessions and tracked the participation of healthcare workers involved in the care of COVID-19 patients, this nurse would have been afforded the opportunity to obtain the essential training.

In Iran emergency medical service (EMS) personnel reported that they felt that some training was not relevant to them. Their work processes differed from all other categories of health care workers, as they dealt with the patients in their homes and public places and transported patients in ambulances away from the safety of the hospital. Hence training programs should be specific and relevant to their work process (Mohammadi *et al.* 2021b: 2). Likewise, a paramedic, P.7.M, shared that they joined hospital staff for training at “Hospital 1” and felt that this training should have been customized for their type of work. The work processes of paramedics are different, as they work outside the controlled environment of a hospital, moving in and out of the homes of patients and are confined to small poorly ventilated ambulances, this requires that training be tailored to suit their needs.

The results of this study highlighted the necessity for enhanced collaborative initiatives during and following the initial severe waves of the pandemic, to establish training programs capable of addressing the crisis effectively. Insufficient knowledge can lead to suboptimal patient care and misdiagnoses, thereby exacerbating the infection burden. Furthermore, a deficiency in understanding isolation room protocols and procedures for potential COVID-19 patients, may have heightened the risk of infection within healthcare settings. It was also essential to provide more comprehensive training and education regarding the triage and isolation of suspected cases for healthcare professionals involved in the care of patients under investigation.

4.4.4 HEALTH WORKER PREPARATION OF SELF

4.4.4.1 THEME 3: PERSONAL PREPAREDNESS OF HEALTHCARE WORKERS TO WORK DURING THE COVID-19 PANDEMIC

Healthcare workers around the world were at the forefront of screening, quarantining and managing actual and suspected COVID-19 patients. Consequently, many had to be prepared physically, psychologically and socially to cope with the onslaught of the disease. The following sub-themes emerged under theme 3:

Sub – theme 1: Physical preparedness of self

Sub – theme 2: Psychosocial preparation of self

4.4.4.1.1 Sub – theme 1: Physical preparedness of self

Many participants engaged in a diverse array of activities and used holistic strategies to ensure they were physically well. They shared that they:

“Increased physical exercise in the home ... not going to gym. Took vitamins and mineral substances to strengthen our immune systems.” (D.5.M.).

“I made ginger juices, hand washing, sanitizing and mask.” (D.13.F.).

“My diet changed automatically, cut down on braai meat. I only have my shakes, veggies and fruit.” (EN.2.F.).

“I steamed, myself with Vicks. Drinking ... hot water with lemon and ginger ... helps flush the throat.” (P.7.F.).

Healthcare workers were at the coalface delivering person-centered care, within an unknown and rapidly evolving fragile healthcare landscape. They stepped up their exercise routine, engaged in a healthier diet, invested in immune boosting strategies like using lemon with ginger, engaged in steaming rituals, limited their alcohol use and tried to create regular sleeping patterns to develop a stronger immune system and self. Global studies mirrored local trends, with about 70% of health care workers rapidly adjusting their lifestyles in terms of sleeping, exercising and eating (Muller, Hafstad, Himmels and Smedslund *et al.* 2020: 7). In Ghana healthcare workers opted to exercise more and

supplement with zinc and vitamin C as protective mechanisms against COVID-19 infection (Ofori *et al.* 2021: 7).

In addition, to these strategies, the use of face masks and hand sanitizers became “extremely efficient” in the prevention of becoming infected (Chowdhury, Alif, Alam and Emon *et al.* 2022: 1; Damette and Huynh 2021: 16; Prajapati, Desai and Chandarana 2022: 1). A doctor D.13.F, mentioned that she rigorously used face masks and hand sanitizers to protect herself from infection. The second sub-theme, focused on the psychosocial strategies adopted by health care workers, during the pandemic.

4.4.4.1.2 Sub- theme 2: Psychosocial preparation of self

Participants shared the difficulties they experienced when confronted with the pandemic saying:

“Mentally, I don't think I was prepared for it. I think it's difficult to prepare for something that you have never faced before and that is quite hard. Shop ... once a month ... when we got home, we actually went and showered and then we disinfected all our food and washed everything before actually packing it away.” (D.12.M.).

“Psychologically. I did not expect to be confronted with this type of traumatic experience ... that this disease would be so huge. Emotionally ... I did not expect to feel like I did. Socially, I moved out of my home that I shared with my parents, they are elderly with co-morbidities. I did not visit my girlfriend ... and social distanced from my friends, family and colleagues.” (D.17.M.).

“Emotionally, you almost detach yourself, you almost become hard. Sleeping arrangement ...separately from partner ... it became disjointed. We were not sharing meals together.” (PN.19.M.).

“I organized myself in the garage, remove boots ... I take off my uniform ... put clothes in a bucket of warm water and bleach ... then put on other clothes and go straight to the bathroom and take a shower.” (P.7.F.).

These narratives reflect that the COVID-19 outbreak had alarming implications for the individual and collective health and emotional and social functioning of health care

workers. This coalesced from the high infectivity and mortality rates, the incubation period of the virus and fears for the wellbeing of family members. The pathogenicity of the virus was so pronounced that those affected, were compelled to undertake drastic measures, which included modifying their living conditions and behaviors.

Researchers in Sweden also reported that healthcare workers, had decided to move out of their homes and maintain a physical distance from their loved ones, to protect them from possible infection (Hugelius, Johansson and Sjolín 2021: 6). Chemali *et al.* (2022: 6), further reported in their review of global studies, that many health care workers had adjusted their living arrangements, to protect their family members. This resonated with the decisions of one of the doctors (D.7.M.), who relocated to protect his elderly parents from illness and avoided visiting his girlfriend for her safety. Similarly, one nurse (PN.19.M.), did not share a bedroom with his partner and avoided communal meals with family members to maintain social distancing. The nature of his work in the ICU, which involved conducting high-risk aerosol-generating procedures, increased his susceptibility to infection. This situation compelled him to modify family routines, ultimately leading to a sense of emotional disconnection from his loved ones.

Another doctor, D.12.M, shared that he was not mentally prepared for the pandemic, as this was an experience he had never encountered. To protect himself and his wife from COVID-19 infection, he limited his shopping trips, sanitized all his groceries and took a shower immediately on returning home to prevent contaminating his home. One paramedic, P.7.F, shared that she removed her work clothes and disinfected them outside her home. American health care workers adopted similar safety measures such as removing their shoes and putting them in a plastic bag. They removed all their clothes in the laundry room and washed them on the sanitizing mode in their washing machine and took a shower, before doing anything else in their home (Smeltzer, Copel, Bradley and Maldonado *et al.* 2022: 9). These rigorous measures reflect Cherepanov's (2020:3) argument that these deviations from the norm required deep psychological shifts to make the change, to cope with the transformations required. The effects of COVID-19, on both healthcare workers and their families is captured under theme four, in the sub-section that follows.

4.4.5 THE EFFECTS OF COVID-19 ON HEALTHCARE WORKERS AND THEIR FAMILIES

4.4.5.1 THEME 4: PHYSICAL EFFECTS OF CARING FOR COVID-19 PATIENTS

This theme explores the physical ramifications associated with the care of patients afflicted by COVID-19. Participants engaged in the care of these patients across diverse environments, including fever tents, emergency departments, surgical theatres, dedicated COVID-19 wards or isolation units, intensive care units specifically for COVID-19, and ambulances during the transfer of patients from their residences to hospitals or between hospitals. Furthermore, outreach teams comprising nurses conducted home visits to test community members for COVID-19. Nurses also operated within a field hospital located in the uMgungundlovu Health District, which was established in a spacious hall at the Royal Agricultural Show Grounds (RASG) and partitioned into cubicles to ensure privacy and isolation. The sub-themes that follow emerged under the fourth theme:

Sub-theme 1: Physical exhaustion

Sub theme 2: Physiological challenges with PPE

Sub-theme 3: Adverse reactions to PPE

Sub-theme 4: Sleep disturbances

Sub-theme 5: Long COVID-19: healthcare workers

4.4.5.1.1 Sub-theme 1: Physical exhaustion

Participants had worked for prolonged hours in personal protective equipment, some for three hours on a rotational basis and others for six hours at a time. Some even spent the whole day in PPE, which was for approximately eight hours and over, with only a short break in between. Other participants travelled to remote areas and had to change in and out of their PPE, at the homes of their patients. They narrated their experiences as follows:

“The second wave was in December 2020. In Pietermaritzburg, the weather is dry and you are in this big tent, from 8 am to 4 pm and you work, you are hot, it was tiring, uncomfortable, with the N95 mask ... hyperventilating in the mask, it was a mess.” (D.7. M.).

“I had a headache... the entire day... getting dizzy ... I had literally no energy to do anything, I was drained.” (PN.10.F.).

“We were driving around in the heat from house to house. Changing outside into PPE...it was hot sticky, the gown is sticking to you ... just exhausting.” (EN.10.F.).

“Very tired, it is like working in the trenches ... sweating ... no water. Sometimes danger is so large in the ambulance ... we moved 36 patients on one day.” (P.7.F.).

“You do get dehydrated because you perspire, you can’t have water ... anything to rehydrate yourself ... so tiring.” (P.10.M.).

The mandatory use of PPE for healthcare professionals was essential for their safety; however, it had adverse effects on their physical health and comfort. Participants reported significant physical discomfort, particularly in the context of the COVID-19 fever tent during the summer months, which resulted in feelings of exhaustion and dehydration. One nurse (PN.10.F.), who was employed in the intensive care unit (ICU), noted that the use of PPE led to various physical symptoms, including headaches, dizziness, and a pervasive sense of fatigue. This fatigue was undoubtedly intensified by the substantial workload faced by many healthcare workers during the second wave of COVID-19, which represented the most severe surge experienced in South Africa. Additionally, those working in the ICU were subjected to immense pressure, as they performed numerous life-saving procedures while grappling with dehydration, dizziness, and discomfort caused by their PPE.

Healthcare professionals in both England and Australia reported experiencing sensations of heat, with 72.3% and 81% indicating respectively that they felt "hot," and a significant majority, 89.7% in England and 88% in Australia, expressed feelings of extreme discomfort while wearing personal protective equipment (PPE). They noted that the use

of PPE led to increased perspiration, with 98.7% of English respondents and 73% of Australian respondents affirming same (Davey, Lee, Robbins and Randeva *et al.* 2021: 4; Hunt, Ting, Schweitzer and Laakso *et al.* 2021: 3). In addition, Australian healthcare workers reported feelings of fatigue, thirst, and irritability, with 60% experiencing these symptoms, together with 50% suffering from headaches and 30% reporting dizziness (Hunt *et al.* 2021: 3).

An experimental simulation study conducted in Spain revealed that the use of PPE, led to elevated body temperatures, which in turn resulted in significant sweating, dehydration, and increased thirst. The researchers further determined that excessive perspiration also contributed to weight loss (Rojo-Rojo, Pujalte-Jesus, Hernandez-Sanchez and Melendreras-Ruiz *et al.* 2022: 15). Once healthcare professionals donned their PPE, they were required to remain in it for a designated duration, which hindered their ability to hydrate. Moreover, paramedics often transport patients in the confined and typically warm environment of an ambulance. The physical demands of their work, which include lifting stretchers and transporting patients from their residences to the ambulance, inevitably led to increased physical exertion, further elevating body temperature and exacerbating their discomfort.

Italian health care participants wearing FFP2 (filtering face piece) masks, reported that they had trouble with breathing, with at least 70% of the sample saying they had at least one episode of dyspnea (Cremasco, Vigorosa, Solinas and Caffaro 2023: 7). One of the participants in the current study also shared that his PPE, had made him hyperventilate. This hyperventilation would have been intensified, not only by the heat in the fever tents, but also through the stress and pressure of attending to an increased number of patients. In addition, to physical exhaustion, the PPE left many participants unable to meet their nutritional and elimination needs. This is discussed in the sub- theme that follows.

4.4.5.1.2 Sub-theme 2: Physiological challenges with PPE

The healthcare workers shared the physiological challenges that they experienced with PPE as follows:

“No lunch break ... some of our staff were diabetic, it was not good at all and some of their sugars were dropping ... low.” (PN.F.12.).

“No lunch, we worked right through till over 5 pm. I remember in December 2020 it was absolutely horrible. You are so exhausted in the tent ... but even if you want to eat ... no appetite ... your mind is so troubled ... not at peace.” (PN.F.13.).

“I only got a chance to eat when the car was moving, there was no lunch or teatime, and there was no rest period. I couldn’t even go to the toilet to relieve myself. There was no toilet ... we had to go in the bush to pee ... urine infection.” (PN.F.17.).

“We struggled with eating and drinking; we had to remove our masks and eat in the vehicle with sometimes four of us in it.” (EN.F.2.).

Several nurses shared that their routine mealtimes were disrupted because of being in PPE. This had ramifications for staff who were diabetic and began experiencing hypoglycemia, because they could not eat timeously. Inevitably this would have affected their ability to focus and work efficiently. Other participants had lost their appetite because of having to cope with the surges in patients requiring medical attention. This coupled with the lack of rest periods meant that healthcare workers were experiencing high levels of exhaustion that could have influenced their ability to provide proper care for patients.

Inevitably the lack of adequate nutrition and rest would have led to weakened immune systems amongst healthcare workers. COVID-19, continued to mutate causing more virulent strains, and with no vaccines to prevent infection and no medication to cure the disease, the host, required a strong immune system to fight against infection (Francois, Nagessa, Victor and Moleka *et al.* 2020: 80). Maintaining a strong immune system required nutritious meals that contained important micro and macronutrients (Francois *et al.* 2020: 80).

North Indian healthcare professionals, including nurses and doctors, reported significant challenges while working in PPE for extended durations. They expressed difficulties in eating, drinking, and using the restroom (Sharma, Sharma, Sharma and Mohanty *et al.* 2022: 4). This sentiment was shared by one participant, who noted the necessity of

retaining urine, thereby increasing susceptibility to urinary tract infections. Jagtap, Harikumar, Vinayagamoorthy and Mukhopdhyay *et al.* 2022: 6) supported this concern, saying that prolonged retention of urine in the bladder can lead to urinary tract infections.

The subtheme that follows focuses on the adverse reactions to PPE that were experienced by healthcare workers.

4.4.5.1.3 Sub-theme 3: Adverse reactions to PPE

Several of the healthcare workers experienced adverse reactions to their PPE as follows:

“The mask was terrible because it used to cause huge indentations on your face and bruises.” (D.18.F.).

“I’ve broken out into pimples ... skin issues ... itch on your face because of sweating sometimes, you can’t touch your face. My sinuses were always affected and the fibers from the mask ... it irritates your sinuses.” (PN.5.F.).

“The mask makes you sweat underneath, it causes rash ... and leave red marks ... blocks my sinuses.” (PN.8.F.).

“The mask stuck to the skin, caused acne, and damaged my skin.” (EN.1.F.).

As evidenced within these narratives, participants reported that significant perspiration had accumulated beneath their masks. The absence of adequate airflow led to moisture saturating the mask, which kept the facial skin damp and obstructed the pores, ultimately contributing to the development of acne and rashes. To enhance surface protection, surgical masks were worn over the N95 masks. Consequently, the pressure exerted by these masks resulted in indentations, bruising, and redness on the facial skin. Additionally, healthcare workers expressed concerns about experiencing sinusitis, attributing this condition to the irritation caused by the fibers of the face masks on their sinuses.

Numerous international studies have indicated that prolonged use of goggles and face masks resulted in excessive sweating. Furthermore, poorly fitting masks have been

associated with skin irritations, including pressure injuries and contact dermatitis, which may manifest as rashes and acne (Manookian, Nayeri, and Shahmari 2022: 8; Purushothaman, Priyanga, and Vaidhyswaran 2021: 62; Gyapong, Debrah, Oforiwaa and Isawumi *et al.* 2022: 1). Specifically, N95 masks have been reported to cause symptoms such as itchy and obstructed noses, as well as post-nasal drainage, while users of surgical masks have experienced nasal congestion due to irritation of the nasal mucosa by the mask fibers (Purushothaman, Priyanga, and Vaidhyswaran 2021: 62; Gyapong *et al.* 2022: 1; Cengiz and Can 2022: 759).

The fourth subtheme explored how participants experienced sleep disturbances.

4.4.5.1.4 Sub-theme 4: Sleep disturbances

Healthcare workers shared how their sleep was affected as follows:

“I could not sleep because I was burnt out and stressed.” (PN.8.F.).

“You relive the whole day ... wake up 2-3 in the morning ...thinking could I have done something different or better? You are not having ... 6-8 hours of sleep. During the day ... sometimes you are slower, blank as well and that is the time when errors can be happen, if you are too mentally exhausted.” (PN.12. F.).

“When I go home, I am too tired and ... take pain killers, sleeping pills. It keeps flashing in your mind, you’re thinking about the ward, if you had a very bad patient, especially the patient that ended up dying.” (EN.5.F.).

The trauma of working within a COVID-19 milieu precipitated anxiety and stress which led to difficulties with sleep. One participant shared her agony about whether she could have done her duties differently. She became anxious that the lack of sleep could make her unfocussed, leading to potential mistakes within a tumultuous patient environment. Another shared that the experience of caring for a gravely ill patient, who ultimately passed on, led to her being traumatized. Flashbacks of this experience disturbed her sleep, leaving her with no choice but to resort to sleeping tablets, to be able to sleep. Other studies found that American healthcare workers, concerns for their children and

family, work demands and burn out left them with four to five hours of sleep per night (Stewart, Koza, Dhaon and Shoushtari *et al.* 2021: 3).

Similar to the participants in the current sample, healthcare workers in Turkey and Italy, who experienced sleep disturbances, had to increase their use of sleeping pills or needed to take medication to sleep (Erdogan, Berktaş, Oksuz and Sahin *et al.* 2022: 3; Proserpio, Zambrelli, Lanza and Dominese *et al.* 2022: 2241). Decreased sleep and poor-quality sleep, however, could result in grave errors such as the failure to check for drug sensitivities, errors in the dispensing of medication and other mistakes in what was already a turbulent environment, with new challenges and increased patient numbers (Abbas, Al-Otaibi, Gheith and Nagib 2021: 145).

The last sub-theme reflects the experiences of health care workers, who were infected with COVID-19 and were experiencing long COVID. This will be discussed in the subsection that follows.

4.4.5.1.5 Sub-theme 5: Long COVID-19: healthcare workers

Many participants contracted the virus and experienced moderate to severe COVID-19. Some also suffered post COVID-19 symptoms and had to take extended sick leave to recover. A common thread through the narratives, was that healthcare workers still experienced COVID symptoms after returning to work. Their journey through long-haul COVID-19 is reflected in the excerpts that follow:

“After COVID, I was still quite short of breath and could not walk upstairs and had to sit whilst writing notes.” (D.6.F.).

“I was discharged on the 22nd of February [2021] ... in March, I still couldn't drive because I had vertigo. I had the left sided weakness. I was hurt and angry and on the verge of diabetes ... they even started me on insulin while in hospital but I was not a diabetic. Mid-April, I was readmitted ... twitching and my heart rate was low like 35-38 [beats per minute]. I still get a low heart rate now ... especially when I am sleeping at night. It is sad. I still feel like I am spinning when I'm walking, and spinning even sometimes when I'm

sleeping. The liver was just not right because of all the steroids ... I was also taking Clexane every day. I am grateful that I made it.” (PN.20.F.).

“I have long term COVID. I was broken ... literally ... physically ... I could not move. I could not stand or walk on my own for about two months, my children had to help me for about two weeks. Then slowly I started doing little exercises. My heart rate was not coming down at all, my blood pressure and blood sugar was so high. My chronic medications were all changed. My CT [Computed tomography] scan results My lungs ... only the size of a golf ball that was functional ... on the left and the right. My doctor really looked at it as a miracle, I really am a blessing. I was recovering very, very slowly. I only left home towards the end of March [2021] ... still have symptoms.” (PN.21.F.).

These accounts illustrate the challenges faced by healthcare professionals, who had to cope with the debilitating effects of long COVID. Symptoms such as respiratory difficulties, unstable blood sugar levels, and fluctuating blood pressure have significantly impacted their lives both professionally and personally. A young doctor recounted her inability to take steps or stand for long because of the COVID-19 complications. The prolonged symptoms associated with long COVID-19, have also had a significant emotional impact on healthcare workers. Similarly, healthcare workers in the United Kingdom (UK), also developed long COVID and many were compelled to cease their professional duties, due to experiencing unusual symptoms (Taylor, Kingstone, Briggs and O'Donnell *et al.* 2021: 835). A healthcare worker in that sample shared that previously she could climb up stairs without an issue, but now she found her heart rate soaring to 120 beats per minute. Several individuals reported an inability to drive. Like the current cohort, many continued to endure symptoms months after their initial COVID-19 diagnosis. Numerous participants expressed feelings of sadness stemming from a lack of acknowledgment and the perception that their general practitioners were unable to provide adequate care. Consequently, they experienced a range of emotions, including fear, anger, sadness, and disappointment. They expressed a desire for healing through the sharing of their narratives, emphasizing that “listening to a patient’s story is key to knowing what is going on.” (Taylor *et al.* 2021: 839).

Theme five that follows reflects the mental health sequelae, which emerged from caring for COVID-19 patients.

4.4.6 MENTAL HEALTH EFFECTS

4.4.6.1 THEME 5: PSYCHOLOGICAL EFFECTS OF CARING FOR COVID-19 PATIENTS

Throughout the COVID-19 pandemic, healthcare professionals faced the harrowing experience of witnessing significant human suffering, alongside a dramatic increase in daily patient mortality rates. The sub-themes that follow, arose under the fifth theme and pertain to the psychological impacts associated with the care of COVID-19 patients.

Sub-theme 1: Moral injury among healthcare workers

Sub-theme 2: Secondary traumatic stress of healthcare workers

Sub-theme 3: Concerns about infecting family

Sub-theme 4: Concerns regarding the well-being of colleagues who had contracted COVID-19.

Sub-theme 5: Professional grief: death of colleagues and their family members

4.4.6.1.1 Sub-theme 1: Moral injury among healthcare workers

COVID-19 has significantly heightened the mental and emotional strain experienced by healthcare professionals. In addition to this distress, the global healthcare workforce faced profound moral and ethical dilemmas. Moral injury can be characterized as a profound emotional trauma that arises amongst individuals who have observed their patients experiencing severe suffering and pain. Healthcare workers, were confronted with the stressors associated with feelings of remorse, which stemmed from moral distress and ethical guilt, despite them being unaccountable for their patients' isolation from their families, suffering, and eventual death. They often grappled with a sense of regret for perceived inadequacies in their care, leading to experiences of moral injury (D'Alessandro, Ritchie, McCabe and Lanius *et al.* 2022: 10; Cartolovni, Stolt, Scott and

Suhonen 2021: 590). Healthcare workers in the current study narrated their experiences as follows:

“I felt sad and depressed when transferring a patient to the ICU, it felt like the end of the road for the patient. Patients who needed ICU for ventilation, demised. Every day felt like I was gambling with my life.” (D.3.M.).

“Going to intubate a patient was scary and stressful time. Fear thinking that you could end up like that ... despair and desperation not being able to help, whatever you try ... is not working ... devastated and frustrated... it was emotionally exhausting.” (D.5.M.).

“It makes your heart feel heavy. It’s actually horrible ... declare so many people dead every day ..., its humbling, you cannot fix everything ... it is an impending doom.” [became very emotional and started crying] (D.6.F.).

“Our psyche was stressed out and we have been messed up. At night you think about it... the families you called ... they were all crying ... lost their mothers ... blame yourself ... think maybe there was something else I could have done better ... guilt. We were emotionally tapped out.” (D.7.M.).

“On oxygen ... they were suffocating, and it was difficult to watch. I did witness patients die in the tent ... it was so inhumane.” (PN.3.F.).

“Death upon death upon death. The young ones ... when they just can’t breathe. The doctors will call “Hospital 1” and they will say no bed, no ventilator ... nothing else we could do ... we actually cried. It was scary.” [emotional ... crying] (PN. 20. F.).

“We were just helpless we could not do anything ... to save them ... patients were all alone, no family.” [emotional ... crying] (EN. 6. F.).

One of the nurses, who worked in the fever tent described that it was “horrible” witnessing, the acute respiratory distress many patients endured and the suffering that went with it. She described the deaths of patients in the fever tent as “inhumane”. Another nurse described her immense distress over the multiple number of deaths occurring, because the tertiary hospital lacked bed space to allow them to be ventilated. Other participants described the “impending doom,” that came with the realization that once they moved a

patient to the ICU, for ventilation, the risk of death was heightened. Others described their helplessness, saying that regardless of whatever treatment option they tried, it did not work. This also caused them to question their own journey, fearing that they would end up like their patient. One doctor shared that at the end of his working day, he experienced immense guilt over the deaths of his patients and was distraught over the grief that their families were experiencing.

These narratives capture the intense psychological and emotional trauma or what has been referred to as moral injury that healthcare workers experienced. American healthcare workers were also found to be extremely challenged with the lack of resources, treatment options and caring for the dying, who could not have their family present, whilst having to also console the family of patients remotely (Meyer 2021: 226). They were burdened with the “emotional and ethically fraught” decisions regarding the restricted use of resources, withholding resuscitations and intensive care admissions (Meyer 2021: 226). A doctor in the current sample indicated that throughout the severe surges of the pandemic, patients on ventilators were succumbing to their conditions. This participant, further recounted that each day at work felt akin to a wager with his own life. Nevertheless, healthcare professionals felt obligated to transfer patients for ventilation, as it was their legal, moral, and ethical duty to provide these individuals with an opportunity for survival.

A nurse expressed her profound emotional distress and anguish, regarding the unavailability of ICU beds and ventilators for critically ill young patients, a situation which was exacerbated by resource limitations. This scenario further illustrates the healthcare system's inadequacy in addressing the overwhelming demands posed by the pandemic. The relentless exposure to acute respiratory distress among patients profoundly affected many healthcare workers, leaving them deeply unsettled. Despite these ongoing traumatic encounters, healthcare professionals were compelled to remain at the front lines of the pandemic, often without sufficient physical rest or mental health support.

The pandemic transcended geographic boundaries, revealing that the severe challenges faced locally, were occurring globally. In Sri Lanka, healthcare professionals confronted significant patient suffering and a tragic loss of life (Rathnayake, Dasanayake, Maithreepala and Ekanayake *et al.* 2021: 6). They grappled with feelings of guilt

stemming from their inability to deliver optimal care, due to the overwhelming demand for healthcare resources. Additionally, the stringent protocols in place restricted treatment options, leading to considerable emotional turmoil among these professionals (Rathnayake *et al.* 2021: 6). The repercussions were particularly pronounced for those working in intensive care units. A study conducted in Turkey indicated that healthcare workers in these settings reported heightened levels of anxiety, depression, and emotional exhaustion (Duru 2022: 1208). Common mental health issues identified included anxiety, depression, and profound feelings of fear and helplessness, as highlighted in a research study in Bangladesh (Razu *et al.* 2021: 4).

All categories of healthcare professionals, regardless of their specific COVID-19 clinical settings, reported significant emotional distress. The mental health of these workers is of paramount importance, as it directly impacts on the quality of patient care, especially in unpredictable and high-risk environments like the COVID-19 pandemic. The data gathered from this study, along with findings from international research, indicate a substantial prevalence of anxiety, depression, insomnia, and post-traumatic stress disorders among healthcare workers. If left unaddressed, these mental health issues pose a risk of more severe psychological consequences, which could adversely affect both their future physical health and overall psychological well-being. The subtheme that follows, captures the secondary traumatic stress experienced by healthcare workers.

4.4.6.1.2 Sub-theme 2: Secondary traumatic stress of healthcare workers

“Through the eyes of healthcare workers”

Secondary traumatic stress manifests in healthcare professionals, who have observed traumatic events, leading to symptoms akin to post-traumatic stress disorder. Such events may encompass actual or potential fatalities, which can be either directly experienced or merely witnessed (Kendall-Tackett and Beck 2022: 3). Schuster and Dwyer (2020, cited in Kendall-Tackett and Beck 2022: 3) characterized trauma associated with healthcare work as arising from exposure to distressing situations, including "overwhelming suffering and unexplainable loss." The current sample recounted how these traumatic experiences influenced their emotional well-being, stating:

“Never before had I seen someone in such respiratory distress. That picture really scared me and is going to stay in my mind, till the end of my life.” (D.6.F.).

“Hardest to see families in the unit [ICU] and dying together. Two sisters were admitted in the ICU, they could see each other, sleeping opposite each other. The younger sister watched the older one struggle on the vent, she became so distressed ... we intubated her as well. Both the sisters died on the same day. One family ... a father, his son and uncle, were all admitted in the unit ... they could see each other ... all of them died. These raw stories ... were devastating for us.” (D.18.F.).

These narratives capture the immense emotional pain and suffering that healthcare workers experienced. One of the senior doctors in the intensive care unit, shared the huge losses families were experiencing, as two sisters demised, on the same day. This reflects the equally deep trauma that was being experienced amongst the families of patients. These stories which capture the “raw,” experiences of humankind during the pandemic, are reflected in another narrative where a father, his son and brother were all admitted to the ICU together. Not only did these family members watch helplessly as their loved ones succumbed to the virus, but families on the outside had to endure sudden multiple losses. Healthcare workers reported being profoundly impacted by the dire situations faced by their patients, expressing that these distressing experiences would remain etched in their memories for many years.

In other studies, Chinese patients shared how they and their family members were all infected and simultaneously had to seek medical assistance at the same time. Liu and Liu (2021: 6) reported how a patient had shared that she, her parents and her daughter were all infected with COVID-19 and both her parents had succumbed to COVID-19. Another patient shared that she had lost her daughter, her husband, friend and relatives to COVID-19, saying that her sadness and grief was indescribable. Apart from the patients being deeply affected, healthcare workers, in the current study, had to watch close family members die in the same unit on the same day. Patients themselves became aware of how challenging it was for nurses in the isolation unit, saying it was “hard for the nurses” too (Liu and Liu 2021: 7). Healthcare professionals experienced profound trauma as they witnessed their patients suffering and ultimately giving up their will to survive.

“Very frustrated, very distraught, heartbroken, betrayed and defeated. This 40 year old female ... holding me. I think she died in pain ... I was helpless not doing what you've pledged to do. I think it leaves you scarred, a mark, you question your own value, your own morality within the profession.” [very emotional ... crying] (PN.16.F.).

“The most difficult and painful part for me was they would say ... the Lord is here to take me. Please leave me and let the Lord take me in peace ... medication is not going to help ... I am suffering too much and I'm in so much pain ... I was helpless.” [participant crying] (EN.4.F.).

One participant described her distress at the thought that her patient was dying and was in pain but could do little to ease this. She felt helpless, saying that it had left her “scarred,” and made her question her own “morality”. Such emotional distress supports the need for mental health interventions, to help healthcare workers come to terms with such difficult and painful experiences. The severity of the virus left patients believing that nothing could help them, and hence they were accepting their own deaths. Witnessing the intense trauma of patients has undeniably created the need for counselling and other spiritually based support to cope.

Healthcare workers were significantly traumatized by their experiences. Hence it was not unexpected, that a Saudi Arabian study found that about 55.2% of the participants had experienced depressive disorders and 51.4% experienced anxiety disorders (AlAteeqa, Aljhani, Althiyabi and Majzoub 2020: 1432). In addition, an American study revealed that at least 20% of healthcare workers required psychological first aid intervention due to the extreme psychological trauma they were experiencing (Malik, Peirce, Van Wert and Wood *et al.* 2021: 3). However, none of the participants in the current study, received any form of psychological support, despite experiencing profound trauma.

The loss of pregnant women was also distressing, as evidenced in the narrative that follows:

“Obstetric patients were young, otherwise fit people pregnant ... we had to try and save that cohort ... were dying ... you give a motherless child or newborn to their granny ... or if they have a father ... just too sad.” (D.18.F.).

The rising rates of maternal mortality were documented in a meta-analysis of international studies, which revealed that numerous children were effectively born without a maternal figure (Chmielewska, Barratt, Townsend and Kalafat *et al.* 2021: e769). A doctor of the current study recounted the alarming situation where healthy, young pregnant women admitted to hospitals for childbirth, experienced a rapid decline in their health due to COVID-19, thereby necessitating mechanical ventilation and demised. These fatalities were particularly heartbreaking for healthcare professionals, as newborns had to be entrusted to their fathers or grandmothers for care from birth. This situation further illustrates the profound impact of COVID-19 on traditional family structures, thereby leading to the disintegration of familial bonds and eroding families.

Another narrative reflected the deep fear experienced by paediatric patients with COVID-19. Doctors shared how difficult it was for children to be alone in the hospital space:

“There were all these children there ... positive ... alone... that was very sad for me because they were very afraid of hospital, when they see a doctor or a nurse ... they start to cry.” (D.15.M.).

“Young patients ... see the pain in the patient’s eyes ... and fear. I feel this broke me knowing that they, would die. I felt this was so cruel, they could not have their loved ones with them.” (D.17.M.).

COVID-19 had a profound impact on young children who found themselves hospitalized in unfamiliar surroundings. Several participants of the current study experienced significant psychological distress, while tending to these ill, frightened, and tearful children and adolescents, who were devoid of the comfort of familiar faces. Witnessing their young patients endure such harrowing ordeals was emotionally very distressing. The hospital environment was not only alien to the children, but they were also met by healthcare professionals clad in full PPE. This situation exacerbated the existing fears that many children have regarding hospitals, doctors, and nurses, as the presence of PPE added an additional layer of anxiety.

Many hospitals began to implement protocols to limit the entry and exit of visitors, to curb the spread of infection (Virani, Puls, Mitsos and Longstaff *et al.* 2020: 1). Changes in

these hospital protocols led to healthcare workers having to cope with these distressed young patients, without the support of their mothers. Furthermore, Kirk, Chong, Kam and Huang *et al.* (2021: 210) noted that there is a gap in literature on the experiences of health care workers caring for children with COVID-19, in hospitals. Kirk *et al.* (2021: 210) however concluded that around 40% of the participants in their study had reported depression and anxiety whilst caring for children with COVID-19. The study, however, did not unpack specific details about caring for the COVID-19 paediatric patients.

Guney, Akkus, Rezaee, and Yilmaz (2023: 74) also recognized that children typically experience fear when confronted with unfamiliar healthcare settings and the associated medical procedures. The implementation of COVID-19 protocols, which restricted visitors in hospitals and mandated the use of full PPE, intensified the fear and anxiety among these children. The researchers found that children admitted to healthcare facilities for COVID-19 in Turkey, exhibited heightened fear, particularly upon encountering healthcare workers donned in PPE. One nurse noted that the children's reactions resembled those of individuals who had encountered a "bogeyman". This sight was so distressing that many children attempted to flee the hospital (Guney *et al.* 2023: 72).

Nurses working in paediatric wards experienced anxiety, depression, burnout, moral distress, symptoms associated with post-traumatic stress disorder (PTSD) and poor well-being (Guney *et al.* 2023: 72; Pountney, Butcher, Donnelly and Morrison *et al.* 2023: 914). Such experiences could therefore have long term psychological effects on children and could become a societal issue, adding to the concerns of healthcare workers. Guney *et al.* (2023: 76) also advocated for the improvement in working conditions of nurses and the establishment of psychosocial support programs aimed at both healthcare professionals and children who have encountered these distressing circumstances. It is also essential that these services are made available to the children of healthcare workers, who were hospitalized during the pandemic.

While there is a notable gap in the literature concerning the experiences of children who were COVID-19 patients, it can be inferred that these young patients need to be prioritized for targeted interventions to enhance their psychosocial well-being in the aftermath of

their traumatic experiences. The sub-theme that follows reflects healthcare workers fears, that they could take the virus home and spread it to their loved ones.

4.4.6.1.3 Sub-theme 3: Concerns about infecting family

Coronavirus can stick to the surfaces of clothing, handbags, shoes and the hair. Hospital and other medical contexts are fertile grounds for high viral loads, placing participants at increased risk of contracting infection. Many participants were therefore deeply afraid that they would carry this infectious virus home, spread it to their loved ones, and cause them to become very ill. They shared these concerns as follows:

“I was very scared as my husband has high blood pressure. How do I keep my family safe? Scared ...of death ... I saw so many people die.” (D.10.F.).

“So I was very nervous and concerned about getting sick myself and then spreading that to family members ... I did not go home. My grandmother has lots of co-morbidities and my younger sister has a respiratory disease. If she gets COVID ... she might get it very severe, she might become critically ill ... might even die.” (D.15.M.).

“In the middle of the night ... at 3 am in the morning ... concerned ... I am diabetic ... I said death I could face. Bringing it [COVID] home to my family... giving it to my children. If they had to die ... because my daughter is diabetic ... I was nervous, really scared, it was emotionally draining.” (PN.14.F.).

“My dad is also a health worker; my mum is asthmatic ... we were panicking.” (P.11. M).

The findings indicated that a primary source of psychological distress within the current cohort stemmed from the apprehension of contracting COVID-19 and subsequently transmitting the virus to family members. This anxiety was exacerbated by the presence of pre-existing comorbidities among many family members, which could potentially lead to severe complications or mortality if infected with COVID-19. Numerous participants expressed that the health conditions of their loved ones, such as diabetes, hypertension, and asthma, intensified their feelings of anxiety, fear, and panic. One individual even reported refraining from returning home, to mitigate the risk of spreading the virus to family members.

Such fears appear to be consistent with findings from other studies conducted in India, Saudi Arabia, the United Arab Emirates, and Zimbabwe, which highlighted that healthcare professionals were similarly concerned about the risk of infection in their work environments and the potential impact on their families (Sengupta, Roy, Ganguly and Baishya *et al.* 2021: 341; AlAteeqa *et al.* 2020: 1435; Saddik, Elbarazi, Temsah and Sharif-Asakari *et al.* 2021: 6; Moyo, Mavhandu-Mudzusi and Haruzivishe 2022: 6). A meta-analysis, of studies across the globe, further supported the notion that healthcare workers, stayed away from home, in an attempt to decrease the risk of spreading the virus to their family members (Billings, Ching, Gkofa and Greene *et al.* 2021: 7). In Turkey, health care workers shared that they were more afraid of infecting their family, as the virus was asymptomatic and hence they could unknowingly spread it to loved ones (Akkus, Karacan, Guney and Kurt 2020: 1247).

Additionally, as demonstrated in research conducted in Morocco and Iran, healthcare professionals often have family members engaged in the healthcare sector, including partners, parents, siblings, and children. This familial connection heightened the risk of transmitting the virus to other relatives, thereby exacerbating their stress levels (Souadka *et al.* 2020: 1; Nohesara, Saeidi, Mosavari and Ghalichi *et al.* 2022: 5). A participant in the present study, recounted that his father was also a healthcare worker, which led to significant anxiety about potentially infecting his mother, who suffered from asthma and was at a heightened risk of severe illness or death due to the respiratory complications associated with COVID-19.

Recent research corroborates findings from international studies, in which participants expressed apprehensions regarding the risk of personal infection and the subsequent possibility of transmitting the virus to their close family members, including partners, children, and parents residing in the same household. Regrettably, a significant number of healthcare professionals did contract SARS-CoV-2.

The fourth sub-theme emerging from the data, focused on colleagues, who became infected with COVID-19.

4.4.6.1.4 Sub-theme 4: Concerns regarding the well-being of colleagues who had contracted COVID-19

As the COVID-19 pandemic progressed, the virus underwent several mutations, resulting in successive waves that caused a significant rise in the number of confirmed cases. This surge was paralleled by an escalation in hospital admissions for COVID-19 patients, which in turn contributed to a higher incidence of healthcare professionals being admitted to COVID wards, as well as an increase in the number of patients requiring ventilation in COVID intensive care units. Healthcare professionals were consequently exposed to the potential of requiring hospitalization and mechanical ventilation. Participants shared their experiences in the following manner:

“I was concerned about them and their well-being. Some of them had co-morbidities so ... it was quite distressing.” (D.8.F.).

“That was my down point that I could not handle. Many colleagues had COVID. You can’t help but think it could have been me. This is COVID, it has no friends, then who is next”? (D.13.F.).

“Like 70% of my colleagues were infected, I was scared because you hope they don’t end up in hospital and become oxygen dependent ... fear ... it was terrifying. We did have one colleague that was critically ill ... oxygen dependent ... mechanically ventilated. We were very anxious, upset ... it was a difficult time for us... stressful. We work very closely in the unit, so it affects us. He had a young family.” (PN.11.F.).

“It was very frightening, worried, will they get better and come back ... what would happen to the family. It could have been me.” (EN.9.F.).

“I was scared, they might die, they were admitted ... in hospital ... in ICU ... I was devastated.” (P.8.F.).

These accounts illustrate the anxiety and turmoil experienced by participants when their coworkers contracted COVID-19. Working in close proximity with each other, nurtures stronger professional bonds, thereby intensifying their concern for colleagues affected by the virus, particularly given the increased severity of the disease and the associated

mortality risks. Additionally, there was significant worry for the families of these colleagues. One nurse expressed her distress over a colleague requiring ventilation, especially given his dependence on oxygen. The participants harboured deep fears regarding potential complications and fatalities among their peers. They were apprehensive about who might be the next to contract the virus and expressed sorrow over the possibility that they themselves could also fall gravely ill with COVID-19.

Indian healthcare professionals reported experiencing significant emotional turmoil when faced with colleagues exhibiting COVID-19 symptoms and particularly during their care of these individuals (Srivastava, Srivastava, Upadhyay and Gupta *et al.* 2021: 5). Similarly, research conducted in the United Kingdom revealed that healthcare workers were left feeling powerless as they dealt with colleagues suffering from respiratory distress (Soubra, Tamworth, Kamal and Brook *et al.* 2023: 16). Han, Duan, Zhao, Zhu and Jiang (2022: 8) opined that during these challenging times, healthcare workers needed enhanced social support and advocated for the establishment of support groups within hospital settings to assist them in managing the ongoing stressors associated with the pandemic. This perspective was echoed by participants, who expressed their agreement as follows:

“Two friends [colleagues] and I had COVID together, we created a group chat. We felt that ... you are not the only one ... it makes you feel better together. We shared our symptoms and what helped and supported each other.” (PN.10.F.).

WhatsApp support group chats played a salient role in creating emotional support for the participants. This suggests the potential for these platforms to be used on an ongoing basis to provide social support for healthcare staff.

4.4.6.1.5 Sub-theme 5: Professional grief: death of colleagues and their family members

Healthcare professionals across various disciplines faced significant mortality during the height of the COVID-19 pandemic. In addition to providing care and witnessing their colleagues grapple with the effects of this pervasive virus, many healthcare workers

themselves became severely ill and ultimately lost their lives to the disease. This situation exacerbated the trauma experienced by those involved, as detailed below.

“Knowing that more than one health care worker passed away, was one too many, a very sad and stressful time. I don’t think we expected so many deaths. We could not mourn together as a community of healthcare workers.” (D.5.M.).

“Many colleagues were admitted at “Hospital 1” ICU, and demised. Staff members’ parents demised while they were on duty in “Hospital 1”. We would cry inside the COVID unit. With the family on the outside, it was really hard.” (PN.4.F.).

“My close colleague was pregnant ... she started getting sick on her nights off. She was in a hospital in Durban. There was no ventilator ... she and her baby died. It was heart breaking ... devastating.” [Crying] (PN.14.F.).

“It was too heartbreaking, devastating, I nursed many nurses who died with COVID-19 in the isolation ward, we just cried, it was traumatizing.” (EN.8.F.).

These narratives reflect the harsh reality of the virus, as colleagues and their families lost their lives to COVID-19. Many colleagues and their family members who were known to the participants, lost their lives. This exacerbated their trauma and grief as they not only had to grieve the loss of those they worked with within the hospital, but support family on the outside. The lack of preparedness for the pandemic and critical shortage of life-saving equipment was evidenced in a narrative, related to how a healthcare worker lost her life because there was no ventilator available. COVID-19 transcended all human boundaries, even affecting those unborn, who lost their lives along with their mothers. These experiences heightened the trauma of the healthcare workers, who undoubtedly had to set aside their emotions and continue to work within what was a dehumanizing environment.

The lack of healthcare staff in relation to the burgeoning number of patients meant that many regardless of their age, healthcare status or backgrounds, had to be called up to assist. In Pakistan healthcare workers reported that pregnant women with comorbidities, were forced to work in COVID-19 high risk areas because of the critical shortages of staff (Shahbaz, Ashraf, Zakar and Fischer 2021: 6). Although the government had developed

policies that stated that pregnant women were not to work in these high-risk areas, hospital administration breached this and threatened the healthcare workers with job loss, thereby compelling them to work under risky circumstances (Shahbaz *et al.* 2021: 6).

A study by Nelson and Lee-Winn (2020: S126) in Colorado, documented the extreme fear and powerlessness of healthcare workers, who were witnessing their coworkers becoming sick, intubated and die. Healthcare workers in Indonesia, shared how unprepared they were for the deaths of their colleagues, which left them in a state of severe shock and caused them to experience increased heart rates (Tage, Djogo, Letor and Bina 2023: 3). One of the nurses in their sample, shared that when her colleague died, she fainted, because it all happened unexpectedly and so rapidly (Tage *et al.* 2023: 3). Fang, Xia, Tian and Hao *et al.* (2021: 5) similarly added that healthcare workers were not merely working with the extremities of the pandemic, but they were grieving the loss of colleagues who had also waged a battle against the pandemic alongside them. They also grieved for the families of healthcare workers (Fang *et al.* 2021: 5). Participant, D.5.M, described the death of one healthcare worker as “one too many”. The deep levels of shock and grief appeared to be pervasive not only in South Africa, but also prevalent abroad. Moreover, there was no opportunity for closure due to the COVID-19 restrictions, which prevented healthcare workers from attending the funerals of their colleagues and hosting memorial services for them.

The virus did not discriminate regardless of age, levels of fitness or socio-economic circumstances. One of the paramedics described how other paramedics who were young and fit became vulnerable and lost their lives. He said:

“All young and fit guys were getting very sick, one ended up in coma and died ... so that was heart breaking ... we lost about 10 or more paramedics.” (P.13.M.).

Collectively healthcare workers lost not just patients and their loved ones but also lost colleagues and their colleagues’ family members.

4.4.7 HEALTHCARE WORKERS WITHIN THE MILIEU OF A PROLONGED PANDEMIC

4.4.7.1 Theme 6: THE PROLONGED TRAJECTORY OF THE PANDEMIC AND ITS EFFECTS ON HEALTHCARE WORKERS

Healthcare professionals, faced with the persistent occurrence of daily fatalities, gradually began to perceive this reality as a norm. To cope with these circumstances, certain individuals experienced emotional fatigue and disengagement, striving to act as though “nothing had happened.” The subthemes that follow, illustrate this overarching theme as follows:

Sub-theme 1: Compassion fatigue and desensitization

Sub-theme 2: Unresolved trauma and the emergence of post-traumatic stress disorder

4.4.7.1.1 Sub-theme 1: Compassion fatigue and desensitization

Joinson (1992, cited in Sahin, Duzgun, Unsal and Kirmizigul *et al.* 2023: 1344) characterized compassion fatigue as a state of emotional, physical, mental, and spiritual burnout, that may arise in individuals who care for patients with trauma. This phenomenon is closely linked to empathy, defined as the capacity to comprehend and resonate with the emotions of others, which is a crucial element in the field of healthcare (Gok 2015, cited in Sahin *et al.* 2023: 1344). Prolonged exposure to psychological trauma can leave healthcare professionals feeling overwhelmed and emotionally depleted. The accounts shared by participants indicated that they experienced both compassion fatigue and desensitization, as detailed below:

“We were just certifying deaths and just move on like nothing happened, we became so desensitized to people just dropping dead or they gave up, so what still scares me is that, we just move passed it, ... just forget about it. There was a system of who goes to ICU for ventilation, now there is an ethical dilemma. At that time all the patients going to ICU ... did not come back.” (D.7.M.).

“Many patients that I nursed, passed away. It made me feel like no matter how hard you try you can’t save everybody and at least they are at peace and not suffering.” (PN.3.F.).

Healthcare professionals experienced profound trauma due to the severe conditions surrounding the deaths of their patients. As the pandemic advanced, the escalating death toll contributed to the emergence of compassion fatigue, leading to a desensitization towards these losses. One doctor noted that the overwhelming number of fatalities resulted in him having a mechanical approach to certifying deaths. This shift towards a routine devoid of emotional engagement raised significant concerns, particularly given that the foundation of the healthcare profession is built on principles of compassion and care. Additionally, the doctor expressed the ethical dilemma he faced, when adhering to protocols that dictated which patients should be prioritized for ICU treatment. He grappled with the knowledge that many patients were not surviving the process of ventilation, yet he was still required to facilitate their transfer for such interventions.

Researchers in South Africa, argued that the pressures on critical care resources were linked to a rise in mortality rates associated with COVID-19 (Jassat *et al.* 2021b: e1222). A study conducted at a tertiary healthcare facility in the Western Cape, found that the overall mortality rate among COVID-19 patients in the ICU was 62%, while the mortality rate among those who were ventilated reached 91% (Nyasulu, Ayele, Koegelenberg and Irusen *et al.* 2022: 8). It was therefore not unexpected that one of the doctors in the current cohort expressed apprehensions regarding the transfer of his patients to the intensive care unit.

The results of this study were also consistent with those observed in Spain, where doctors reported experiencing greater levels of compassion fatigue and burnout compared to nurses during the COVID-19 pandemic (Ruiz-Fernandez, Ramos-Pichardo, Ibanez-Masero and Cabrera-Troya *et al.* 2020: 4324). The researchers attributed this phenomenon to the necessity for doctors to make significant ethical and moral decisions concerning patient care amid resource constraints. Consequently, they found themselves in situations where they had to prioritize the lives of certain patients over others (Ruiz-Fernandez *et al.* 2020: 4324).

Nohesara *et al.* (2022: 8) also supported this argument, saying that participants, in their study had also normalized the notion of death and were feeling apathetic, as they had witnessed so many deaths. They became numb and accustomed to death as an

unavoidable occurrence. Their failure to save patient lives, resulted in them accepting death more readily, as there was no cure for COVID-19 (Nohesara *et al.* 2022: 8). This was echoed by a nurse in the current sample, who said that she realized “*you can’t save everyone,*” no matter how hard you try, as patients were inevitably passing on. Despite the pervasive levels of helplessness and hopelessness, participants comforted themselves that death would allow their patients to be at peace and free of suffering. The “essence of caring” however remains fundamental in health care and the desensitization and compassion fatigue emerging from the pandemic, is a major concern for the future of health care professionals. The lack of counselling and support to come to terms with these experiences, can eventually coalesce into a tsunami of mental illness, particularly post-traumatic stress disorder in the future. This calls for a concerted strategy to provision therapeutic support and counselling for the healthcare force, post the intense waves of the pandemic.

4.4.7.1.2 Sub-theme 2: Unresolved trauma and the emergence of post-traumatic stress disorder

Data gathering for the research was initiated during the second wave and concluded with the fourth wave of COVID-19 in South Africa. As a result, numerous participants expressed that they had not yet confronted the avalanche of psychological distress associated with being suddenly immersed in a precarious and unfamiliar situation that posed a threat to humanity. The narratives that follow reveal a clear indication of the potential onset of post-traumatic stress disorder (PTSD) among many individuals.

“I don’t think that I will ever forget what happened ... even to this point most of us, have not really dealt with what we went through.” (D.7.M.).

“I think we got a lot of social and psychological or psychiatric problems in the end. We act emotionally strong, but we are human and it takes its toll eventually. I think you’ll get very unbalanced people ... very high strung ... stressed out people.” (D.12.M.).

“Working in ICU, to some degree ... we all have PTSD (post-traumatic stress disorder) or some stress disorder. Maybe some ... are covering it up. It becomes a hazard.” (D.18.F.).

“You get scared now and again, suppress it [emotions] or if you don’t deal with it, you can get pretty depressed again ... it brings you back to those emotions. Doctors hold in the most ... the worst to disclose ... you will never really unpack it or receive closure, hold it for pretty much the rest of their life.” (D.20.M.).

“It is like you forgot about yourself ... like ... PTSD.” [crying] (PN.5.F).

These narratives reflect the deep levels of trauma participants experienced. One doctor suggested that many doctors would become unbalanced and inherit psychological problems because of the pandemic. The emotional distress of working within ICUs was shared by another doctor, who said that almost all the doctors had post-traumatic stress disorder, or some stress disorder, but had to cover it up because they had to deliver patient care within the context of both staff shortages and a shortage of essential equipment. That the doctors, were deeply affected, was evident when one of them said, *“doctors hold in the most ... the worst to disclose ... you will never really unpack it or receive closure, hold it for pretty much the rest of their life.”* This confirms that many had to internalize the distressing experiences occurring in the ICUs, the COVID-19 wards and the fever tents during the pandemic and not share how it was affecting them. The suppression of negative emotions will inevitably manifest as a range of mental health disorders, particularly post-traumatic disorders and disrupt their interpersonal relationships and the health of these doctors.

Human, Vahed and Marais (2023: 1) asserted that at the time of their study, South Africa, ranked as the country, with the 5th highest number of healthcare workers infected with COVID-19. Of these they reported that at least 11.7% of healthcare workers had admitted to having post-traumatic stress symptoms. Hence as the pandemic progressed and as the numbers of healthcare workers who became infected with COVID-19 increased, so did their stress (Human, Vahed and Marais 2023: 11). Given these findings, it can be opined that most of the current samples have acquired some degree of post-traumatic stress disorder. Those doctors who were interviewed in the current study had eagerly volunteered to participate and took the longest time during interviews, to narrate their experiences. The aforementioned factors underscore the necessity for enhanced emotional support, the importance of debriefing, and the provision of therapeutic

interventions to help individuals manage the trauma associated with their professional experiences during the pandemic. As the pandemic recedes, it becomes more crucial to implement these measures to mitigate the risk of long-term psychological issues.

Researchers have documented significant levels of fear, anxiety, depression, and post-traumatic stress disorders among healthcare workers. A study conducted by Tong *et al.* (2022: 5) in China revealed that female healthcare professionals exhibited greater susceptibility to these psychological impacts compared to their male counterparts, potentially leading to enduring psychological consequences. One participant, identified as PN.5.F, expressed, "*it is like you forgot about yourself ... like PTSD.*" This ICU-trained young mother of two became visibly emotional, shedding tears as she reflected on her neglect of her psychological health throughout the pandemic. The psychological challenges faced by healthcare workers were further compounded by their own experiences as patients of COVID-19.

4.4.8 HEALTHCARE WORKERS' PERSONAL EXPERIENCES AS COVID-19 PATIENTS

4.4.8.1 THEME 7: PERSONAL JOURNEY AS A COVID-19 PATIENT

Many participants became infected with COVID-19, during the pandemic. Despite adhering to safety protocols, the amount of time at work coupled with caring for high volumes of patients with COVID-19, placed them at risk of infections acquired at work. Chandran, Lilabi, Thomas and George *et al.* (2022: 247), reported that the positivity rate amongst healthcare workers was 21.2%. In addition, about 29% of the infections were attributed to involvement in patient care and around 16% were associated with community acquired infections. Positive cases included doctors, nurses and paramedics. The two sub-themes that emerged from the seventh theme were:

Sub-theme 1: Self-care at home

Sub-theme 2: Healthcare workers as hospitalized and ventilated patients

4.4.8.1.1 Sub-theme 1: Self-care at home

Many participants were compelled to isolate and care for themselves, within the confines of their home. They narrated this personal journey with COVID-19 as follows:

“I was worried about disease progression ... thoughts of death and dying, I was living alone. My family were very anxious, my dad wanted to come and look after me, I was fairly ill, my colleagues dropped of groceries for me.” (D.4.F.).

“I felt very scared, hopeless, feeling like ... overwhelming dread total disbelief. What’s going to happen to my kids, my husband? How are they going to manage if I am not there, I can’t? Why is this happening? We had been through so much caring for these patients.” (PN.5.F.).

“Scared, worried, sick, breathless, fatigued, lonely in isolation. Worried for my health, I am asthmatic ... worried about hospitalization, ventilation, death and my family. What would happen? Could not get out of the bed because I had myalgia and arthralgia. I just kept praying to God for healing.” (PN.6.F.).

“It was very frightening after watching the patients ... it was difficult to isolate in the same home with the rest of the family but we managed” (EN.8.F.).

“My worse fear came true ... I got infected ... I was very scared in case my condition got bad ... but the worse happened. I infected my mum and dad ... both died ... I have to live with that.” (P.1.M.).

These accounts illustrate the profound isolation, loneliness, and intense fear experienced by healthcare professionals, as they navigated their recovery at home. One participant recounted her experience of becoming breathless, which led to a growing fear of the possibility of hospitalization, the need for ventilation, and the threat of death, a journey made by many of her patients. The virus crippled her further, manifesting as myalgia and arthralgia, which prompted deep concerns for her family, who would have to cope without her if she did not survive. Another participant expressed her astonishment at having to endure a struggle for recovery after dedicating herself to the care of her patients. However, the most significant fear faced by one of the doctors in the cohort was the

potential progression of her illness. Being a doctor, she was acutely aware of her symptoms and the risk of deteriorating into a more critical state. A paramedic revealed that although he was concerned about the deterioration of his own health, his parents ultimately bore the consequences of him bringing the virus into their home. Tragically, they succumbed to the virus, leaving him to struggle with feelings of guilt and regret.

The most common thread in the narratives above reflected the immense psychological distress that healthcare workers experienced whilst they were experiencing severe COVID-19 symptoms at home. Indian and South African healthcare workers who had COVID-19 were also found to have experienced fever, myalgia and severe headaches. They also noted that their participants had complained of having a sore throat, insomnia, rhinitis, nasal congestion, sneezing, chills, breathlessness, vomiting and diarrhea (Chandran *et al.* 2022: 247; Beekrum, Ghuman and Naidoo 2022: 60). These findings mirror those to the current study, as most of the participants, across all categories, in the current study said that they had contracted COVID-19. Most of the participants thought that their infections stemmed from being in close contact with patients. Several healthcare workers experienced complications that necessitated their admission to the hospital, with some requiring mechanical ventilation.

4.4.8.1.2 Sub- theme 2: Healthcare workers as hospitalized and ventilated patients

“From the other side of the hospital bed”

The second sub-theme, emerging under theme seven, focused on the experiences of healthcare workers, who became COVID-19 patients, admitted to hospital and some were ventilated. Those nurses shared their experiences as follows:

“I had severe COVID pneumonia ... I was anxious ... I could not sleep ...scared to sleep. Too many nightmares ... someone is covering me with a black cloth. Your body is just tired ... I was scared of death. The doctor wanted to send me to ICU but I said no. I was scared ... a nurse sleeping opposite me went to ICU and died.” [very emotional during the interview] (PN.20.F.).

The preceding narrative depicts the profound fear and anxiety experienced by healthcare professionals concerning admission to the intensive care unit. Despite being critically ill, a nurse expressed reluctance to enter the ICU, perceiving it unfavourably due to her observation of a colleague who had been transferred there and subsequently passed away. This situation underscores a previously mentioned theme, related to the low survival rates of patients on mechanical ventilation. Compounding the participants' apprehensions were her recurring nightmares centered on death. Beekrum, Ghuman, and Naidoo (2022: 61) observed that healthcare professionals, from a private hospital, who were hospitalized initially attempted self-care at home. However, the onset of respiratory complications necessitated their admission to a medical facility. Additionally, those participants who were unaccustomed to the patient role experienced difficulties with sleep during their hospital stay. There was also a deep fear among participants regarding the possibility of being transferred to the intensive care unit for escalated care and ventilation, as they associated this transfer with a heightened risk of mortality. The study by Beekrum, Ghuman and Naidoo (2022: 71), however did not share the experiences of those healthcare workers who were mechanically ventilation.

“I had a lot of diarrhoea. I had a very tight chest, my heartbeat, my blood pressure was up. I remember having a headache, like someone is ... like opening my skull in half. I had episodes where I blacked out. I was on CPAP (continuous positive airway pressure). That was the 18th or 19th December [2020] ... I do not recall anything after that because I was ventilated. Over New Year's ... I had a lot of hallucinations ... that I died ... I had a conversation with God and I remember, I said to him, that there is no way he is going to take me away and leave my kids alone, because I don't want them to be without a mum. I woke up on the 2nd of January 2021. They took me off the ventilator and the doctor came in and said ... you are only one of the two people that survived. I know I sound demented ... I am alive ... this is my testimony.” [very emotional and cried during the interview] (PN.21.F.).

These narratives capture both the acute physiological symptoms that accompany COVID-19, and the experience of being ventilated. As shared by this participant, she believed she had “a near death experience,” saying she also hallucinated that she had died. She

was deeply emotional whilst recollecting the experience, saying she was only one of two ventilated patients who survived.

Another nurse highlighted that his recovery took two months as he had to be ventilated and was oxygen dependent.

“Critically ill, I was ventilated ... in hospital for two months ... oxygen dependent. I ended up with depression ... received no support.” (PN.2.M).

As evidenced a participant who was ventilated (PN.2.M.) became depressed and whilst his physical recovery was prioritized, he did not receive counselling. One of the hugest chasms within the healthcare sector was that health care professionals were left with no choice but to prioritize physical recovery from the debilitating effects of COVID-19, to the exclusion of their mental health. The nature of the pandemic shrouded the need for psychological care, despite it being just as important as their physical recovery. Social distancing measures also meant that isolating oneself to prevent infection was paramount. This caused people to neglect seeking mental health services. Whilst tele-mental health services had begun to emerge, the struggle for survival overrode the need to get psychological help. It is plausible that even post the COVID-19 peaks, people were grateful to have survived and as such neglected their mental health. The problems emerging from post-traumatic disorder nevertheless impacted their physical wellness and required that healthcare authorities consider prioritizing such services, even after the pandemic has subsided.

There was limited literature available on the experiences of healthcare workers as ventilated patients, hence little literature for comparison. There are however a few deep narratives of the lived experiences of such participants, especially those who were critically ill and needed ventilation. The social impact of the pandemic is detailed under theme eight which follows.

4.4.9 SOCIAL IMPLICATIONS OF COVID-19 FOR HEALTHCARE WORKERS

4.4.9.1 THEME 8: SOCIAL IMPACT OF THE COVID-19 PANDEMIC

The lives of South African citizens and the world over changed overnight, with the introduction of the various lockdown levels and restrictions implemented to curb the spread of SARS-CoV-2. The severity of these restrictions affected the social activities of people, leading to increased social isolation amongst the public and healthcare workers. Theme eight focused on the social impact of the lockdown on healthcare workers.

Because the healthcare workers were frontline workers, they were the only ones within their family who had to go to work. Some lived alone or in other provinces and cities, and hence the lockdown created an even huger disconnect from their families and social networks. This was shared as follows:

“Difficulty to maintain a social life, led to fatigue and stress building, it is not healthy, work was cumbersome and devoid of joy.” (D.3.M.).

“Felt stuck in a bubble, it was depressing and sad. Only surrounded by four walls ... did not get to celebrate Eid together ... felt isolated.” (D.5.M.).

“I did not see my parents for nine months ... family were disappointed during lockdown as other families got to spend time with each other.” (D.9.F.).

“I am running for the club, I even run the races like the Two Oceans and Comrades, it had a huge impact ... I gained weight. I was angry.” (EN.5.F.).

‘We stopped going to church ... I felt very lonely.’ (P. 8. F.).

“We could not socialize and play soccer together ... depressing, nothing to look forward to.” (P.3.M.)

These narratives reflect the disruption to family and social life, as many participants distanced themselves from their loved ones, to protect them from infection and also because of the severe travel restrictions. The lockdown exacerbated the healthcare workers' feelings of depression and isolation and hindered the communal celebration of traditional religious festivals. Additionally, their regular exercise and team sports routines

were disrupted, further jeopardizing their physical, psychological, social and spiritual well-being. Young adults who value socializing and spending time with their friends suddenly had to become housebound. This took a toll on a young doctor whose life had to adjust to going to work and back home.

Simsek and Gunay (2021: 224) similarly noted that Turkish nurses residing away from their homes expressed a strong desire to reunite with their children, who often enquired about their reasons for working while other mothers remained at home. In periods marked by significant stress and uncertainty, engaging in physical activities, such as walking, is crucial for maintaining health (Lee, Lee, Xu and Li *et al.* 2022a: 9). Nevertheless, these activities were curtailed due to lockdown measures, which restricted travel and prohibited social gatherings aimed at mitigating the spread of COVID-19 (Lee *et al.* 2022a: 9). Furthermore, the closure of religious sites deprived individuals of essential social and spiritual support (Musoke, Nalinya, Lubega and Deane *et al.* 2023: 10). Researchers in other countries have reported comparable results, indicating that healthcare workers in Saudi Arabia and Uganda experienced notably elevated levels of depression, anxiety and social isolation during the lockdown period (Fageera, Babbain, Alzahrani, and Khrad 2021: 3; Musoke *et al.* 2023: 13).

4.4.10 RELIGIOSITY AND SPIRITUALITY IN THE CONTEXT OF COVID-19

4.4.10.1 THEME 9: INCREASED RELIGIOUS AND SPIRITUAL AWARENESS

Religion and spirituality emerged as an important theme. The following sub-themes emerged from this theme:

Sub-theme 1: Salience of religious and spiritual activities

Sub-theme 2: Healthcare workers as spiritual care providers

4.4.10.1.1 Sub-theme 1: Salience of religious and spiritual activities

The unpredictable presence of COVID-19 led humankind to turn to their religious and spiritual beliefs and practices, to protect themselves from the virus, and to find tranquility and peace, amidst the severe panic and stress of the pandemic. Religion and spirituality

played a crucial role in helping healthcare workers, navigate the uncharted territory of the pandemic. Participants shared how they turned to their faith and prayer as follows:

“Reading the Bible more and prayed. I prayed for the patients and the hospital ... it gave me some assistance.” (D.13.F.).

“I prayed a lot for peace and comfort, it was only God who got me through. I am a faith leader, I set up a group for other Christian healthcare workers called ... “walking towards the fire”, to encourage and help each other, we prayed for the patients.” (D.10.F.).

“I am Hindu ... I made it my duty to pray before I came to work ... it gave me peace and comfort ... brought the whole family closer together, everyone started praying.” (P.10.M.).

“The pastor by telephone, said ... I mustn't be scared; I must be strong. The Lord is with us, to protect us in everything we do, keep trusting in the Lord. The Lord is going to let us get through ... it removes the fears.” (P. 9. M.).

“Increased awareness of mindfulness ... stress management and yoga.” (D.1.M.).

“I increased meditation at home ... to manage stress.” (D.8.F.).

As reflected in these narratives, doctors and paramedics of varied faiths, turned to prayer to cope with the turbulence within the hospital, for their patient's well-being and for themselves. It brought them peace, and the faith-based groups set up by them during this time not only enabled them to support each other, but to pray for their patients as well. Bentzen (2021: 541) supported the value of prayer, saying that in times of crisis, human beings are inclined to turn to religion for “comfort.” This was no different, during the COVID-19 pandemic when the intensity of prayer increased. Mindfulness meditation and yoga, although rooted in Eastern religious worldviews, are gaining traction in the Western world. As evidenced healthcare workers used these interventions to manage their stress (Cohen, Pignata, Bezak and Tie *et al.* 2023: 12). Studies have supported these practices as they found that during the COVID-19 pandemic, mindfulness improved life satisfaction, built resilience to stress, improved the professional quality of life and nurtured the well-being of healthcare workers (Hedderman, O' Doherty and O' Connor 2020: 3; Karram, D'Alessandro-Lowe, Ritchie and Brown *et al.* 2023: 6).

The nurses described the relevance of online religious services as an important source of strength and comfort:

“The religious organization ... virtual prayer once a week ... with families. They send out videos and inspirational messages.” (PN.1.M.).

“I started a journal ... then just my communication with God. “Holy Communion” ... we have a day that our pastor sets aside where we can sit and have a meeting ...online ... listen to him via podcast.” (PN.13.F.).

“We had attended online services ... with my family ... we had more altar prayers ... as a family, praying and singing. My life is in God's hand ... it was my faith that carried me through ... you needed to be right with God.” (PN.14.F.).

Faith in God appeared to be an important part of the healthcare workers ability to cope. Others affirmed the importance of turning to a Higher Power, for protection, but also engaging in the necessary religious rituals to feel better. Healthcare professionals reported that receiving motivational spiritual messages provided them with enlightenment and a sense of tranquility, as indicated by participant PN.1.M, and others. This notion is supported by several scholars who opined that spirituality plays a significant role in helping people to “find meaning while facing disease and death” (Curlin, Lantos, Roach, Sellergren and Chin 2005, cited in Ave and Sulmasy 2021: 1557; de Diego-Corderoa, Iglesias-Romo, Badanta and Lucchettie *et al.* 2022: 618). Moreover, internet technology formed a crucial pathway that enabled the delivery of sermons or religious service via video conferencing, online Facebook services, zoom meetings and other similar platforms (Ayub, Anugwom, Basiru and Sachdeva *et al.* 2023: 11). Another participant in the current study reported keeping a spiritual journal, to help her reduce stress.

Many participants noted that support from faith-based organizations and prayer significantly boosted their resilience while reducing anxiety and fear. This form of spiritual or pastoral care was particularly beneficial when direct engagement was not possible, helping healthcare professionals and their families process grief and receive spiritual support (Wu, Buckle, Haut and Bellandi *et al.* 2020a: 94; Roman, Mthembu and Hoosen 2020: 2; Tata, Nuzum, Murphy and Karimi *et al.* 2021: 25). Sarmiento (2020: 1) referred

to healthcare workers as "wounded healers" and advocated for collaboration between medical and spiritual communities to create comprehensive spiritual care programs, including spiritual counseling, worship services, meditation, Bible sharing, and liturgies. Corpuz and Sarmiento (2020: 120) also highlighted the need for increased spiritual support for healthcare workers due to their commitment to serving others. Participants in the present study also sought various other spiritual rituals that offered them a sense of peace.

"Look to a higher power ... my family performed a spiritual cleansing ceremony. To clean oneself of all the spirits that passed away in your presence, I felt better after that ... I got some protection." (D.7.M.).

This narrative reflects not only the huge number of deaths that doctors had to endure, but the emotional toll of encountering such massive levels of human suffering. This doctor shared that only after performing a spiritual cleansing ceremony was, he able to feel better, as he believed that the spirits of his late patients had affected him. Religious cleansing ceremonies are an important practice within certain religious worldviews and are important to ward off evil spirits and to heal especially if a person has been exposed to a traumatic incident and for healing purposes (Singh and Bhagwan 2020: 408).

The use of religious interventions was documented in a Malaysian study, which found that healthcare workers, had experienced lower levels of depression and anxiety due to their adoption of positive religious coping strategies (Chow, Francis, Ng and Najmi *et al.* 2021: 12). Similarly, a study in Brazil found that healthcare workers, who had increased well-being, had adopted religious coping strategies to deal with their stress (Tolentino, Gjorup, Mello and de Assisi *et al.* 2022: 9). These findings support the integration of religiously based activities, as part of a holistic approach to enable the wellness of healthcare workers.

In addition to religious rituals and traditional spiritual practices, healthcare workers also began to adopt more holistic spiritually based activities as follows:

“Kept in touch with colleagues and friends via video calls and social media used social media for entertainment, read books and watched movies, running and doing exercises around the home.” (D.3.M.).

“I started doing woodwork and actually started doing crochet work as well. We took up gardening and I started ... our own vegetable garden.” (D. 12. M).

“Listened to music. Played the piano ... playing level increased. I also learnt a new skill...making ironing boards.” (P.9.M.).

These excerpts reflect that music, particularly playing the piano, reading, exercising and gardening, were some of the holistic spiritually based activities, used by the healthcare workers, to cope with the stress of the pandemic. The implementation of these modern practices provided the participants with a sense of purpose and accomplishment, which contributed to enhancing their spiritual well-being. Even in other contexts abroad, healthcare workers were found to use these activities, such as watching movies, listening to music, and keeping connected with loved ones, through WhatsApp and messenger (Rony, Rahman, Saki and Parvin *et al.* 2022: 3654). A Belgium study found that participants benefitted from reading, walking outdoors and listening to music as a means of coping with stress (Franck, Haegdorens, Goossens and van Gils *et al.* 2021: 9; Karram *et al.* 2023: 7).

Some participants expressed the opinion that hospitals might have introduced certain interventions aimed at supporting the spiritual well-being of both healthcare workers and patients.

“I feel that there could have been faith based leaders allowed in the hospital. They could have worn PPE and been available to provide spiritual counselling for us and the patients. This would have uplifted us, given us hope. We needed them and still do. Going forward management must consider that we are human beings with spiritual needs and make provision for this.” (PN.17.F.).

“We were just stuck in our departments. There was no place where we could go to in our lunch breaks and have some silence, just meditate or benches for us to sit outside and

just listen to the birds. We may have felt less depressed, stressed and isolated, not only for us nurses but all healthcare workers.” (PN.9.F).

Nurses shared that hospitals could have implemented certain spiritually based activities to enable their spiritual well-being, which would have ultimately lessened their emotional distress. They shared that visits from faith leaders could have created opportunities for those who had experienced trauma or distress to receive spiritual counselling and support. The nurses also emphasized the need for the provision of quiet, private spaces for them to relax and disconnect from the trauma of working with severely ill patients or the experience of working with sick patients throughout their shift. They suggested the need for creating gardens in hospital spaces, where health care professionals could relax support each other or meditate in a tranquil, natural environment.

Tata *et al.* (2021: 26) highlighted the importance of chaplains saying that they engaged in direct spiritual care during the pandemic. Armed with personal protective equipment (PPE), they were able to attend and participate in staff meetings, thereby contributing to decision-making processes. These chaplains further reported that healthcare workers, had confided in them, with regards to their concerns for the future and the health of their family and friends. During these times they were able to provide much needed spiritual counselling and support to staff grappling with fears of their own mortality, as well as the overwhelming stress, anxiety, and grief stemming from the numerous deaths they had encountered (Tata *et al.* 2021: 26).

Mileski, McClay, Kruse and Topinka *et al.* (2024: 387) discovered that a serenity room, within the hospital milieu, had significantly improved the well-being of nurses, by providing them with space to detach from their work activities. This in turn positively influenced their emotional, spiritual, and psychological health. Huang, Luo, Li and Lin *et al.* (2022: 9), further suggested that engaging in nature-based activities within natural settings could markedly reduce stress, cognitive anxiety, and somatic anxiety. Whilst these types of activities are not fully integrated within the South African healthcare landscape, they are deserving of greater consideration, given their potential to improve the mental health of healthcare workers who through the nature of their daily work, endure elevated levels of stress.

The sub-theme that follows focuses on healthcare workers as spiritual care providers.

4.4.10.1.2 Sub-theme 2: Healthcare workers as spiritual care providers

During the pandemic health care institutions, reduced foot traffic within their institutions to prevent the spread of infections. This meant that family members as well as spiritual leaders, were not allowed to visit patients. Healthcare workers began offering spiritual care to their patients saying:

“We saw these patients dying and it just felt like medicine was failing and God was our greatest hope in this time. Patients are desperate during this time, some of them did ask for prayer. I would say a prayer standing next to them ... we are humans and we should provide holistic care as healthcare workers.” (D.17.M.).

“Our patients ... had access to their pastors and priests on the phone ... they did do prayers over the phone. You ... realise how much of faith patients had in their religious leaders. If the religious leaders told them, lie on your belly, they would do it as opposed to if we were advocating this.” (D.18.F.).

“Prayed for patients in the manner that I knew ... say something in their ear to make it easy for them.” (PN.4.F.).

“I prayed for the patients and with the patients ... when the patients were passing, I actually used to pray ... God, to take this patient peacefully and to comfort the family. We also had requests from the patients’ families to please pray for them and to take in things like anointed oil, the Muslim faith ... they would bring in their holy water, people ... used to bring in religious strings and beads ... that they would like the family member to have with them.” (PN.5.F.).

“I always prayed for and with the patients whilst transporting them in the ambulance, some would also ask you to pray for them. Spoke to them in a positive way, to keep their faith strong ... it gave them a sense of hope, they were not alone.” (P.5.M.).

These narratives illustrate that healthcare professionals, including nurses, doctors and the paramedics, needed to broaden their conventional roles to encompass spiritual care. They acknowledged the significance of spiritually oriented practices, even when attending

to patients of diverse faiths, as a means of offering solace, support, and, in certain instances, facilitating a tranquil passing. In the face of profound suffering and the absence of effective treatment, patients sought solace in prayer and often asked the participants to pray on their behalf, seeking peace and comfort.

The findings in the current study, align with those made in a study conducted in Malaysia, where it was observed that ICU nurses provided spiritual care to patients during critical moments (Baharudin and Nurumal 2022: 113). One nurse recounted her experience with sedated and intubated patients in the ICU, noting that she played the "Quran radio" and verses from the Quran on her cellphone continuously for them. When patients regained consciousness and heard these verses, they found solace. Some patients even began to learn these verses, which aided in their recovery. Furthermore, in instances where patients were passing away without the presence of family members, the nurses took it upon themselves to perform the final rites, thereby enhancing the bonds between patients and their families (Baharudin and Nurumal 2022: 113).

While the efficacy of specific spiritual and religious practices may be demonstrable within homogenous populations, such as a predominantly Muslim country, their application within diverse, multi-faith societies presents a more complex challenge for healthcare professionals. The inherent variability in religious beliefs and spiritual practices across different cultural and ethnic groups necessitates a more nuanced and individualized approach to care, potentially complicating the delivery of standardized, faith-based interventions. This raises important considerations regarding the cultural sensitivity, ethical implications, and logistical feasibility of integrating such practices into healthcare systems serving diverse communities.

Moreover, a European study revealed that current models of spiritual support are largely rooted in a Judeo-Christian framework, potentially rendering them inadequate for individuals with diverse faith backgrounds or those with no religious affiliation (Timmins, Connolly, Palmisano and Burgos *et al.* 2022: 2212). Furthermore, the provision of this support primarily falls under the purview of healthcare chaplains. While nurses, due to their foundational education and experiential learning through patient interactions involving spiritual needs and religious practices, acknowledge the significance of

spirituality in health, a critical gap remains in their formalized training for delivering comprehensive spiritual care (Timmins *et al.* 2022: 2219).

The provision of spiritual care, as evidenced in the current study, appears to be influenced by the individual healthcare workers' pre-existing belief systems. Participants alluded to delivering spiritual care predicated on their personal understanding and interpretation, suggesting a potential conflation of their own spiritual perspectives with the needs of the patient. This inherent subjectivity in the application of spiritual care warrants further investigation to ensure consistency and patient-centeredness in practice. Consequently, the urgent need for enhanced and specialized educational preparation in spiritual care for nurses and other healthcare professionals is evident. Chirico and Nucera (2020: 2193) concurred with Timmins *et al.* (2022: 2219) by commemorating the experiences of numerous Italian priests who demised during the COVID-19 pandemic, arguing that spiritual competence among healthcare workers is of paramount importance in large-scale disasters. This capacity can mitigate stress and psychological distress experienced by both healthcare professionals and the patients and families under their care.

Globally, the world shifted from face-to-face contact to virtual methods and spiritual care was also transformed through the transition to technology (Roman, Mthembu and Hoosen 2020: 2). One of the ICU doctors in the current study, engaged with spiritual leaders to provide spiritual support to patients over the telephone, which suggests the importance of such interventions in health care. She added that even though patients did not always adhere to the requests of doctors or nurses, they became compliant if their spiritual leader encouraged them to do so.

These acts of spiritual care are consistent with the African philosophy of Ubuntu. Chigangaidze, Matanga, and Katsuro (2022: 319) asserted that spirituality and acts of kindness towards others during the COVID-19 pandemic gave people a sense of “hope, encouragement and positive energy”. Moreover, this spirituality as offered by nurses and doctors to patients, played a crucial role in relieving suffering, improving health outcomes, and minimizing the consequences of social isolation (Chigangaidze, Matanga, and Katsuro 2022: 327).

The tenth theme explored the impact of the COVID-19 pandemic on the families of healthcare workers.

4.4.11 A HOLISTIC ASSESSMENT: IMPACT OF COVID-19 ON THE FAMILY LIFE OF HEALTHCARE WORKERS

4.4.11.1 THEME 10: IMPACT OF THE COVID-19 PANDEMIC ON THE FAMILIES OF HEALTHCARE WORKERS'

There were five important sub-themes linked to theme ten. They were as follows:

Sub-theme 1: Fear of family members for the well-being of healthcare workers

Sub-theme 2: Infection amongst family members and close friends

Sub-theme 3: Personal grief following the death of loved ones to COVID-19

Sub-theme 4: Lockdown and its impact on spouses, children and parents

Sub-theme 5: Financial hardships

4.4.11.1.1 Sub-theme 1: Fear of family members for the well-being of healthcare workers

The doctors and nurses shared the fears of their loved ones as follows:

"I could see the trembling in my parents' eyes as I would leave for work." (D.3.M.).

"My children were worried about my safety. My husband is also a doctor; we were concerned about each other's well-being. We were anxious, and our parents were stressed out." (D.8.F.).

"So, they were scared, especially I did get COVID in Mpumalanga, 2020. My mum and grandmother were very worried ... I was alone during isolation." (D.20.M.).

"My family ... immediate ... were extremely nervous and anxious. It's me and two nieces who are working in health care. The slightest headache, it made them scared that it could be COVID. So emotionally it was draining and taxing on them. I think our families ... are scared that we are going to bring it to them but they were also scared of losing us." (PN.14. F.).

These narratives capture the profound fear, concern, stress, and anxiety experienced by parents, children, and family members of healthcare workers who worked with COVID-19 patients. Their distress stemmed not only from the heightened risk of contracting the virus but also from the potential for severe illness and the possibility of loss. This anxiety was not confined to the local context. Similar sentiments were documented in various other studies conducted in Saudi Arabia, China, the United Kingdom, and Israel, where researchers identified a significant prevalence of anxiety, fear, stress, depression, and concern among family members (Tayyib and Alsolami 2020: 413; Ying, Ruan, Kong and Zhu *et al.* 2020: 7; Tekin *et al.* 2022: 5; Mayer, Etgar, Shiffman and Lurie 2021: 32). The lack of a vaccine and the rapid trajectory of the virus, which was eroding human life, contributed to these deepened levels of fear.

Multiple studies found that family members expressed significant concern regarding the working conditions of healthcare professionals and the associated risks they encountered without adequate PPE (Tayyib and Alsolami 2020: 413, Ying *et al.* 2020: 75; Mayer *et al.* 2021: 32). Consequently, when the current sample exhibited minor symptoms, the anxiety levels of their families increased. Considering the rising infection rates among healthcare workers, such apprehensions were indeed justified (Helou, El Osta, and Husni 2022: 9965). In Morocco, health care authorities initiated plans to assign a single partner to COVID-19 designated areas, where both partners were healthcare workers (Souadka *et al.* 2020: 1). Conversely, this approach was not adopted in South Africa, leading to increased anxiety among family members, particularly when both spouses were employed in the healthcare sector. Consequently, this situation exacerbated the anxiety experienced by children, thereby amplifying the mental health challenges posed by the pandemic within the family unit.

Subtheme two reflects data in respect of infections amongst family members and close friends of healthcare workers.

4.4.11.1.2 Sub-theme 2: Infection amongst family members and close friends

Family members of practitioners also began testing positive for COVID-19, raising the fears of doctors and nurses in the sample, as follows:

“My dad got infected at work. Frustrated, angry ... stress and worry. Scared for my dad as well ... has hypertension, so the co-morbidities ... became a stressor.” (D.15.M.).

“My mum, husband, two children, the little one, she was going to be three. I felt guilty ... I had brought it from my workplace.” (PN.4.F.).

“My husband ...I felt so horribly that I had to give it to him ... so it was very bad and the accusations made towards myself. He suffered post-viral migraine headaches, lost his hearing, post COVID fatigue and problems with his vision ... he could not work a full day, he had to go to a psychologist.” (PN.5.F.).

“My mum tested positive for COVID ... lots of heartache, because she contracted COVID -19 through an admission in hospital [a private hospital]. Two nurses that cared for her ... tested positive. I was angry, hurt, I felt guilty ... she didn't want to go to hospital ... we had let her down.” (PN.14.F.).

In numerous instances, healthcare practitioners inadvertently transmitted the virus to their family members. This situation not only created significant feelings of guilt but also instilled profound anxieties regarding the recovery of their loved ones, as these practitioners were acutely cognizant of the unfavourable prognosis associated with the virus. Healthcare professionals exhibited heightened concern for their relatives, especially those with pre-existing health conditions, as such individuals were at an increased risk of developing severe complications, upon contracting COVID-19 (Khanal, Paudel, Devkota and Dahal *et al.* 2021: 5; Kumar, Katto, Siddiqui and Sahito *et al.* 2020: 4). Research conducted by Mohsin, Agwan, Shaikh and Alsuwaydani *et al.* (2021: 4), indicated that in Saudi Arabia, over half (64.7%) of the family members of healthcare workers had contracted COVID-19. This was further corroborated by narratives, illustrating that healthcare workers whose family members had comorbidities experienced more severe illness from COVID-19 after being infected through contact with these practitioners.

A participant expressed feelings of self-blame regarding her husband's deteriorating health, which manifested as post-viral migraine headaches, hearing loss, and significant post-COVID fatigue. The traumatic experience of his long COVID journey necessitated

therapeutic intervention. In addition to her feelings of guilt, she faced allegations suggesting that she was responsible for her husband's condition. This participant shared the irreversible and debilitating consequences of COVID-19, which impaired her husband's ability to work. The health consequences her husband faced due to long COVID-19, which included hearing loss, vision changes, and chronic fatigue, ultimately led to him resigning from work and requiring psychological support. Additionally, another participant conveyed her guilt, which stemmed from her elderly mother contracting COVID-19 after being admitted to the hospital for a routine procedure, allegedly due to exposure from the nursing staff. The vulnerability of families during this crisis was underscored in a study by Shah, Wood, Gribben and Caldwell *et al.* (2020: 1), which revealed that one in six hospital admissions for COVID-19 involved healthcare workers and their relatives.

The loss of loved ones to COVID-19, is discussed in the sub-theme that follows.

4.4.11.1.3 Sub-theme 3: Personal grief following the death of loved ones to COVID-19

Many healthcare workers lost immediate and extended family members to COVID-19 as well as friends and significant others. They shared as follows:

"I watched my dad's funeral from the window ... a drive by funeral ... we all had COVID-19. I did not see him when he was admitted to hospital. Very heartbreaking and so devastating ... there is no closure." (PN.11.F.).

"I felt the worst was when Prophet P. [spiritual father] died. He was my support and guided me during this pandemic ... such a "Man of God" succumbed to this disease was really very heartbreaking. I heard people talk at the funeral about how he died ... it was conducted on the road." [crying during the interview] (PN.13.F).

"My mum's death put me into a terrible state of depression. All I used to do was just scream and cry, my family felt robbed and cheated ... felt guilty ... funeral so sad and painful ... not in church. In darkness due South Africa's load shedding practices, in the funeral parlor, sealed coffin ... we don't know if it was my mum. Only 20 people ... uncles

and aunts ... family treated us like we had COVID-19. My daughter blames me.” [crying] (PN. 14. F).

“My niece and her husband died ... left behind a six-year-old son. Felt heartbroken, sad, and angry. The child, he can’t believe it ... he cries when we speak to him.” [crying] (P. 6. F).

These narratives reflect the deep grief and heartbreak that families experienced, and the trauma of changed protocols related to funerals and religious rituals. The inability to grieve and mourn the deaths of close loved ones and the cold, stoic nature of funerals, heightened the grief of healthcare workers. Other researchers also found that healthcare workers were describing the funerals of their loved ones, as a bitter farewell (Mohammadi, Oshvandi, Shamsaei and Cheraghi *et al.* 2021c: 4). Burial practices broke traditional revered religious practices, thereby compounding the grief that healthcare workers were feeling. Another huge consequence of what has been described as a silent and deadly pandemic, was that it left “children orphaned” (Lowel, Rachmawatil, Richardson and Kelly 2022: 7). This was evidenced in one of the narratives, where a participant shared how her niece and her husband had lost their lives, leaving their young son alone. This together with their fears for the future, instability in the family, stigmatization and social isolation were adding to the mental health distress of healthcare workers (Mohammadi *et al.* 2021c: 5).

Healthcare workers in other studies shared that they had hoped that their healthy and young relatives, would survive COVID-19 infection (Bratt, Carlsson, Meakin and Gustafsson 2023: 5). The unpredictability of the virus caused incessant panic, causing healthcare workers to feel despair, especially when they had infected their family members (Bratt *et al.* 2023: 5).

The drastic shift in interpersonal relationships is evidenced in the subtheme that follows.

4.4.11.1.4 Sub-theme 4: Lockdown and its impact on spouses, children and parents

The participants narrated their experiences as follows:

“I felt isolated from my family and friends, my wife as well. We lived in the same house but lived apart that was emotionally scarring. I did not see my family for almost a year ... lived in another province.” (D.12.M.).

“People that were at the receiving end of all my anger and frustration was my family, especially my husband. The little things that he did ... made me cross. I would feel so bad later... but the damage was already done.” (PN.13.F.).

“My partner ... I was not able to see him for one and a half months or maybe two months. It hurt ... put a strain on our relationship, it gave us space to argue about little things. You have so much of stress at work.” (PN.15.F.).

The lockdown impacted the relationships of families of healthcare professionals, resulting in heightened tensions and a deterioration of marital bonds, alongside profound frustration, associated with their work during the pandemic. This disintegration of familial ties was corroborated within other studies, which found that social isolation within the home environment and financial difficulties, particularly when one partner faced unemployment, severely affected family relationships (Celik and Kilic 2022: 6476). Additionally, other studies have shown that healthcare workers experienced increased stress, leading to restlessness and conflicts with their partners (Chen, Lou, Yang *et al.* 2022: 10). Consequently, stressors associated with pandemic-related work not only compromised individual health, but also created significant rifts within family life.

A study in America found that the lack of physical contact or intimacy between partners, such as a touch or a kiss, sharing food or a drink, things that were previously taken for granted, had contributed to the breakdown within marriages (Siege and Dekel 2022: 909). These findings resonated with one participant's experience, who described maintaining a distance from his wife, as it was “emotionally scarring”. Another participant who was living away from her partner and had not seen him for a long period, lamented that the separation had caused a huge level of strain on their relationship. Not only were marital relationships affected but the lockdown affected the children of healthcare workers as well.

The children were also affected as follows:

“My son remained worried and sad throughout ... he would tell me ... mama please don’t tell me when you are going to work in COVID ... we going be worried about you going to die.” (PN.18.F.).

“I had to stay away [separate room] from my wife and five-year-old son ... no meals together ... he did not understand what was going on.” (PN.19.M.).

A common thread amongst these narratives was that the children had to struggle with separation from parents who isolated themselves to prevent the spread of infection. They also experienced deep fears for the safety of their parents’ health, as the infodemic related to COVID-19, would inevitably have made them aware of the dangers of COVID-19. Their fears and sadness undeniably created trauma which had not been addressed. As healthcare authorities begin to address the mental health sequelae of the pandemic in relation to practitioners, it is important that such services be extended to their children and loved ones, who would have suffered emotionally as well.

This notion is supported by additional research, particularly in India, where children of healthcare professionals, who were cared for by their grandparents, exhibited significant separation anxiety and heightened fears due to their parents' prolonged absences (Mahajan, Kapoor, and Prabhakar 2020a: 1). These children demonstrated even greater anxiety levels than their peers. Those who experienced the loss of one or both parents to COVID-19, faced the challenge of managing their grief, without adequate mental health support. They inevitably required psychotherapeutic interventions to mitigate potential long-term mental health repercussions. Studies have indicated that the incidence of depression amongst children increased when both parents were employed in healthcare, with daughters of female doctors reporting particularly elevated anxiety levels (Mahajan, Kapoor, and Prabhakar 2020a: 1; Almis, Almis, and Bucak 2022: 108).

Watching social media inadvertently exposed young children to the effects of COVID-19, leaving them feeling fearful, anxious, clingy and irritable (Mahajan, Kapoor and Prabhakar 2020a: 1; Almis, Almis and Bucak 2022: 108). Moreover, children feared losing a parent or parents to COVID-19, or that they could become infected. In addition, the researchers

argued that children became anxious about the changes in their lives (Almis, Almis and Bucak 2022: 109). A nurse (PN.18.F.) shared that her son was always intensely focused on the news regarding COVID-19, which consequently heightened his anxiety about her health. He expressed significant worry about the possibility of her contracting the virus and the potential consequences. Another nurse, PN.19.M, conveyed that his young son struggled to comprehend the alterations in their living situation and routines. The child was too young to grasp the reasons behind their inability to share meals as they had previously done.

Healthcare workers residing with parents employed as frontline workers also encountered the repercussions of cohabiting with individuals engaged in high-stress occupations.

“My mum and dad are frontline workers ... mum is a nurse in the emergency department, dad a policeman. We have kids at home ... it is so stressful. We are in each other’s faces ... I guess arguments come up now and again and cause conflict ... within the family. If the person was going through a bad day, you’d experience it first hand, you know ... so there was a lot of anger.” (EN.7.F.).

A nurse residing with her parents, both of whom were frontline workers, reported that their constant proximity resulted in familial conflicts. The heightened stress levels within the household were exacerbated by the presence of young children, leading to concerns about the potential risk of infection. Family members often directed their frustrations towards one another.

Furthermore, healthcare workers became responsible for ensuring that their children met their learning outcomes with the remote learning process.

“My son ... used to get frustrated with me ... when doing his school work. He thought that I was judging him ... I’m not the teacher in the classroom. I had to get his older brother to also assist.” (PN.12.F.).

After a long day of professional responsibilities, healthcare workers were expected to return home and support their children with academic tasks. This expectation proved to be both exhausting and demanding, as they struggled to provide the level of guidance and attention that their children would typically receive from their teachers in a classroom

setting. This additional responsibility placed significant strain on the parent-child relationship, as noted by participant PN.12.F, among others. The nurse expressed her frustration when helping her son with his studies, as he held the expectation that she could instruct and mentor him in the same manner as his teacher.

Almis, Almis, and Bucak (2022: 109) posited that children of healthcare professionals exhibited heightened anxiety levels relative to their peers. This phenomenon was linked to concerns regarding the potential loss or separation from a parent, as well as fears surrounding the possibility of either the parent or the child contracting the illness. It was therefore understandable that children who had restricted interactions with their parents struggled to concentrate on academic responsibilities, which could result in conflicts with their parents.

The lockdown also caused financial hardship for the healthcare workers, which will be discussed in the next sub-theme.

4.4.11.1.5 Sub-theme 5: Financial hardships

The healthcare workers assumed that they would not have the same burdens, as the public as they were at work, earning a salary. However, there were other variables that placed them at risk of financial difficulty. The participants shared their personal financial challenges as follows:

“My husband had long COVID ... the company did not accommodate him. There were a lot of implications ... he was the provider ... it meant I will be the only breadwinner.” (PN.5.F.).

‘I got this disease at work ... I was admitted to hospital in ICU ... the medical aid did not pay for everything ... the doctor’s bills were above the medical aid rates. I was struggling with medical bills, whilst I was at home recovering. I did not receive any compensation from the department. What we went through, put our families through ... we needed psychological support ... we have to pay for it.’ (PN.21.F).

“He [partner] is a life guard ... not earning anything ... we did not manage.” (EN.2.F.).

“My dad has a business, welding ... he could not work. Everyone being at home, the food was burning out ... I had to buy the groceries. It was frustrating for me, we were financially strained.” (EN.4.F.).

“We will help financially, to bring up this child ... six years old ... no parents.” (P. 6. F).

The financial stability that numerous healthcare professionals experienced before the onset of the COVID-19 pandemic underwent a dramatic transformation. Lockdown measures, which restricted individuals from engaging in work, resulted in many families experiencing a significant loss of income. Additionally, the virus incapacitated previously healthy individuals, further diminishing their capacity to earn a living. The situation was exacerbated by the emergence of orphaned children, compelling families to assume unexpected financial expenses. Healthcare workers who became severely ill due to COVID-19 found themselves in hospitals, where, instead of concentrating on their recovery, were burdened with the urgent need to arrange for the payment of their mounting medical expenses. Nurses and paramedics were more adversely affected than the doctors.

South Africa instituted a level 5 lockdown, on March 27, 2020, which encompassed rigorous measures aimed at curbing the transmission of COVID-19. This lockdown mandated the closure of all businesses, educational institutions, religious organizations, recreational services, and prohibited outdoor activities and gatherings. Additionally, borders were closed to both international and inter-provincial travel (Potgieter, Fabris-Rotelli, Kimmie and Dudeni-Tlhone *et al.* 2021: 7; Made, Utembe, Wilson and Naicker *et al.* 2021: 2). The ramifications of these restrictions were particularly pronounced for healthcare workers. For instance, a nurse identified as EN.2.F, reported that her partner, who worked as a lifeguard, lost his income due to the closure of swimming pools. This situation led to significant financial strain on their family. Similarly, another participant noted that her father was unable to earn a living because he lacked a work permit that was necessary to operate his welding business. The family depended on her income to purchase groceries, which had increased in quantity due to the entire household being present during the day, necessitating more meal preparation. These additional financial pressures created considerable frustration for the healthcare workers involved.

Research conducted in Hawaii and across the United States has revealed that complications arising from COVID-19, have contributed to an increase in unemployment rates within these regions. These results hold considerable implications for families, as they may now face the reality of having either a single income earner or no income earner at all (Bonham, Juarez, and Siegal 2023: 11; Perlis, Trujillo, Safarpour and Santillana *et al.* 2023: 1). A nurse identified as PN.5.F, recounted that her husband was compelled to resign due to complications related to COVID-19, thereby leaving her as the family's sole provider. This abrupt shift in their financial situation necessitated a swift adaptation on their part.

Research conducted in the United States, India, and Pakistan has also revealed that families experienced significant stress due to the financial implications of hospitalization during the COVID-19 pandemic (Rao, Amara, Chaudhuri and Rao *et al.* 2021: 317; Iwashyna, Kamphuis, Gundel and Hope *et al.* 2021: E4). Another healthcare professional in Pakistan noted that her colleague did not receive any governmental financial support to cover her ICU expenses (Shahbaz, Ashraf, Zakar and Fischer 2021: 7). A nurse in the current study, (PN.21.F), recounted her prolonged hospital stay, during which she required ventilation. Her medical insurance failed to cover the entirety of her medical expenses, compelling her to seek alternative means of payment. Despite contracting the virus while on duty, she did not receive any financial aid from her employer to assist with her medical bills or any psychological support.

The COVID-19 pandemic resulted in numerous children losing one or both parents or a primary caregiver. Unwin, Hillis, Cluver and Flaxman *et al.* (2022: 257) therefore advocated for family-based care options, including kinship care, fostering, and adoption, to support these vulnerable children. Such arrangements would ensure that the affected children are raised in a secure and stable family environment. Additionally, one participant, identified as P.6.F, shared their experience of taking on the responsibility of raising a six-year-old relative who became orphaned due to the pandemic. This family now bears the responsibility of meeting the child's immediate and future needs, which entails significant financial expenses.

The next theme that emerged was that of social stigma and discrimination.

4.4.12 SOCIAL STIGMA AND DISCRIMINATION: FAMILY AND FRIENDS, COLLEAGUES AND THE PUBLIC

4.4.12.1 Theme 11: SOCIAL STIGMA AND DISCRIMINATION

Bhanot, Singh, Verma and Sharad (2021: 1) opined that stigma within the context of the COVID-19 pandemic, is referred to as the social process of people excluding those who could probably be infected with the disease and had the potential to infect others in society, thus creating a threat to their well-being and the lives of others. Rewerska-Jusko and Rejdak (2022: 1) added that social stigma is the “attitude of discrimination, disapproval or negative perception given to a group due to the properties or features it represents.” Most healthcare workers experienced various forms of social stigma and discrimination from family members, friends, neighbours, colleagues and the public. They related their experiences as follows:

“Socially, I became isolated in the sense that my family preferred me not to mention that I am situated or being placed at “Hospital 1” COVID-19 unit. My mum ... she didn't want to talk about it she was afraid that people would think that we had COVID. He [partner], wanted nothing to do with me, he asked me to move to my mum's house. I was very frustrated. I first thought that he was being silly and then it started affecting our relationship.” (PN.16.F.).

“So, there were lots of people who were all of a sudden not wanting to speak to you ... I felt people were avoiding meeting me or avoiding meetings or coming to the unit ... ICU had a COVID load ... just from fear of ... contracting COVID.” (D.18.F.).

“I ate in my car ... when I was working in the fever tent, I was told by a staff member not to bring my COVID into the emergency department (ED). I didn't feel welcome in the tea lounge because I worked outside. I felt ostracized, angry, disappointed.” (PN.3.F.).

“People would walk by and leave food at the door, they wouldn't ring the bell, and if you came out they would run away. We had a lack of linen, because the linen ... staff members were protesting to say they would not touch anything that we've touched. I was amazed and frustrated because I couldn't understand ... I was in disbelief.” (PN.16.F.).

“Especially when you are wearing your uniform, they did not even want to sit next [taxis] to you. I felt bad but as much as you are helping these people, they see you as the cause. In the neighborhood, I remember ... my family got tested... the car from the Department of Health came to the house... it shows that somebody’s got COVID-19 in that house so they won’t even come near the house.” (EN.5.F.).

These narratives illustrate the extent to which healthcare professionals experienced social isolation from family, peers, and the broader community. One individual recounted being shunned by her coworkers, who advised her to refrain from entering the emergency department due to concerns that she might transmit the virus to them. Another participant described being rejected by her partner, who suggested that she relocate to her mother's home. This situation underscores how the pervasive anxiety surrounding COVID-19 led to stigmatization and discrimination, even among healthcare workers, ultimately inflicting emotional distress on their colleagues and partners.

These results are consistent with findings from various international studies. For instance, Alajmi, Al-Olimat, Ghaboush, and Al Buniaian (2022: 8) noted that healthcare professionals in Saudi Arabia reported heightened anxiety and distress among their family members, who expressed reluctance for them to return home during their breaks. Some individuals were compelled to isolate themselves in their rented accommodations, separate from their families, which led to marital and familial discord (Alajmi *et al.* 2022: 8). Other healthcare workers in other nations also faced social rejection from their peers, who deliberately distanced themselves. Colleagues would actively avoid them and leave the vicinity upon their arrival. In another investigation, participants recounted instances where coworkers refrained from making eye contact and even went to the extent of labeling one individual in the elevator as a “COVID carrier,” treating her as if she were the virus itself (Simeone, Rea, Guillari and Vellone *et al.* 2021: 5; Kwaghe, Kwaghe, Habib and Kwaghe *et al* 2021: 10).

In Nigeria, healthcare professionals were instructed to vacate the cafeteria, refrain from touching items within the hospital, and were referred to as the "COVID doctor" (Kwaghe *et al.* 2021: 12). The intensive care unit, which housed a significant number of critically ill

COVID-19 patients, instilled fear among other healthcare workers, leading them to avoid both the unit and their colleagues associated with it. In Indonesia, 21.9% of healthcare practitioners reported experiencing various forms of stigma from the public during the COVID-19 pandemic (Yufika, Pratama, Anwar and Winardi *et al.* 2021: 3). Badrfam, Qorbani, and Zandifar (2022: 6) suggested that this stigma stemmed from misperceptions and labeling, avoidance behaviors, negative reactions, and heightened caution exhibited towards healthcare workers (Badrfam, Qorbani, and Zandifar 2022: 6).

Healthcare professionals in Mexico and Malawi faced restrictions in accessing public transportation (Bagcchi 2020: 782; Chakma *et al.* 2021: 644). Participants in the present study reported that the stigma and discrimination they experienced intensified when they wore their uniforms, as their professional identity became more conspicuous. The reluctance of community members to share taxis with healthcare workers contributed to feelings of despair among these professionals, who were dedicated to serving the very community that had stigmatized them. Additionally, healthcare workers and their family members experienced stigma from their neighbours, who witnessed the Department of Health's tracing team visiting the participant's residence for COVID-19 testing. The mere sight of the vehicles associated with the tracing team led the public to assume that those involved were infected with COVID-19, resulting in their social ostracism.

The last theme emerging from the data, focused on the support structures available for healthcare workers.

4.4.13 HOLISTIC ASSESSMENT: SUPPORT STRUCTURES

4.4.13.1 THEME 12: SUPPORT STRUCTURES FOR HEALTHCARE WORKERS AND THEIR FAMILIES

Theme twelve related to the support structures in place to help healthcare workers and their families. These support structures could take the form of formal support structures within the workplace, as well as informal support structures such as support from colleagues, family and other loved ones and spiritual organizations. The following sub-themes emerged:

Sub-theme 1: Organizational support received by healthcare workers

Sub-theme 2: Psychosocial support within healthcare institutions

Sub-theme 3: Colleagues as a support system

Sub-theme 4: Family and other loved ones as a support system

Sub-theme 5: Public support

4.4.13.1.1 Sub-theme 1: Organizational support received by healthcare workers

The first sub-theme related to support and visibility from immediate supervisors and senior managers, mentorship and guidance, orientation, guidelines and assistance with physical work processes, human resources and material resources. The participants recounted their experiences as follows:

“It was difficult to communicate to seniors about emotions you face as one wonders how this will be addressed. I was thrown in at the deep end from day one ... difficult to process my emotions during the pandemic. I never fully understood that caring for so many patients would be an emotional roller coaster ... one that was speeding at an uncomfortable rate in different directions.” (D.3.M.).

“There was a lack of support from seniors ... a lot of interns were getting infected. Our seniors blamed us ... no help from senior staff members, it was stressful ... now there is the amount of work ... support and counselling from seniors would have helped.” (D.4.F.).

“I was very stressed ... resuscitating a patient and doing a layout alone without assistance from senior nursing staff. I regretted being a nurse, a hopeless feeling ... with COVID, it was more traumatizing... I was burnt out.” (PN.3.F.).

“Disjuncture and miscommunication between ICU and the medical doctors. Very frustrating ... trying to find a doctor to manage the COVID patient. This patient ... should not have died, it was because of the doctors ... not having clear guidelines.” (PN.16.F.).

“You know, there’s some things you can complain about, but ... no change ... you will look like a person who doesn’t want to work or is neglecting a patient or we ended up getting into disciplinary hearings ... lack of PPE.” (P.4.M.).

Doctors described being “thrown in at the deep end,” and of being on a rollercoaster because of the number of critically ill patients, which was escalating rapidly in an unknown way for all. Many lamented the absence of seniors, saying they provided little support and were critical of them, instead of being empathic with regards to their fears and challenges. A doctor felt that support and counselling from their seniors may have helped improve their psychological well-being. One of the paramedics reported that they were perceived as someone resistant to work, which consequently led to disciplinary hearings, as seniors felt they were neglecting patients. The huge chasms within the system were visible, with nurses saying that doctors lacked clear guidelines on how to manage a COVID patient. The lack of co-ordination between doctors in intensive care units and the other medical doctors reflects that the pandemic had introduced new dynamics and doctors lacked the experience and ability to quickly plan how to manage this tumultuous situation.

Many felt abandoned by their supervisors and managers, who were not working in tandem with neophyte nurses and doctors, who were more vulnerable, given their lack of experience and knowledge. One of the nurses, PN.3.F, shared how traumatic and stressful it was performing resuscitation on a patient, without the assistance of her seniors. Her lack of experience supports earlier arguments made, that many healthcare practitioners were unprepared for the sheer intensity and volume of COVID-19 patients. A neophyte doctor, D.4.F, similarly, shared having received little support and assistance from her seniors, who blamed interns for becoming infected and disregarding the fact that they were short staffed and overworked. These scenarios further support earlier findings regarding the unpreparedness of the healthcare system for the pandemic.

Healthcare professionals in various studies have expressed that they experienced significant emotional turmoil during the pandemic, describing their experiences as akin to being on “an emotional roller coaster” (Reid, Nana, Abrahams and Hussey *et al.* 2022: 12).

. Additionally, many expressed a desire for increased support and encouragement from their supervisors (Skogsberg, Jarl, and Materne 2022: 5). Participants indicated that their managers often did not understand what resources were necessary for their well-being, showed little concern for their coping mechanisms, and failed to ensure they received sufficient rest. Furthermore, Skogsberg, Jarl, and Materne (2022: 7) noted that while some managers were receptive to the concerns raised by healthcare workers, they were often unable to implement the necessary changes due to a lack of resources.

The inadequacy of the healthcare system's preparedness for the pandemic was not unique to the South African context. In Lithuania, healthcare professionals reported a lack of clear protocols in their workplaces, while the Ministry's indecisiveness exacerbated the turmoil in an already precarious context (Kukulskiene, Argustaite- Zailskiene, Gričiute and Migline *et al.* 2023: 5). According to Aslan, Turkmen, and Top (2022: 6), it is essential to provide healthcare workers with adequate moral support, relevant information, and necessary resources to mitigate staff turnover in a setting characterized by personnel shortages (Aslan, Turkmen and Top 2022: 8).

The sub-theme that follows, examines the psychosocial support systems accessible to healthcare professionals within their respective institutions.

4.4.13.1.2 Sub-theme 2: Psychosocial support within healthcare institutions

The data with regards to psychosocial support being received from the health care institutions, is discussed under two headings, namely debriefing at a unit or ward level and the availability and accessibility of formal psychosocial support programs within the health care institution.

- **Debriefing at a unit or ward level**

Psychological debriefing plays a vital role in recognizing healthcare professionals who have encountered substantial trauma, and facilitating the delivery of psychological "first aid" to them. This process is essential for identifying and addressing individuals who may be at risk for developing chronic psychological issues (Diaz-Navarro, Leon-Castelao, Hadfield and Pierce *et al.* 2021: 4). Consequently, debriefing serves as an important tool

that aids healthcare workers in processing the deaths of patients, fostering comprehension regarding these losses, and managing the complex emotions associated with guilt and blame. Numerous participants reported having access to debriefing sessions, stating:

“Part of it came from our Department of Anesthesia, the specialists in the department, one or two shared ... websites for counselling and debriefing ... did not use it.” (D.5.M).

“After a resuscitation we lay those feelings to rest ... in debriefing ... and move on with new work. I did not have something like that for myself ... it would have helped.” (D.13.F).

“My supervisor did offer me one session only, a month ago. I was unable to fully attend due to limited staff and work demands.” (D.16.F).

These narratives reflect that even where available, very few of the participants used the opportunity for debriefing. One of the doctors shared that limited staff and work demands left her unable to engage in the single debriefing session available for the month. In this scenario, whilst debriefing was available, a single session was inadequate, given the intensity of trauma emerging from the huge number of patient deaths daily. Other doctors in the sample lamented the lack of debriefing opportunities, saying this would have been beneficial in working through traumatic experiences related to resuscitation. Another doctor shared that whilst debriefing was available, as identified on several websites, they did not use it. This suggests the need for a formalized system of debriefing sessions, needs to be embedded within the healthcare system.

Welch-Horan, Mullan, Momin and Eggers *et al.* (2022: 4), supported the value of debriefing, saying it helps to bring to light challenges related to staff shortages, the availability of clinical standards, policies and opportunities to input into improving current practices. Debriefing also affords health personnel an opportunity to discuss strategies for their patients and their families, as family members were not allowed to visit their loved ones when they were in hospital. Most importantly, were the opportunities for the healthcare workers to vent their emotions and feelings, as the need for psychological safety was more evident during the pandemic (Welch- Horan *et al.* 2022: 9). Monette, Macias-Konstantopoulos, Brown and Raja *et al.* (2020: 91) who successfully piloted

debriefing sessions for emergency clinicians via Zoom, found that 78% of their participants had reported its benefits and attributed its success to the fact that trusted colleagues had facilitated these sessions (Monette *et al.* 2020: 91). This suggests how such potential pathways to introduce debriefing into the local health sector can be facilitated.

The void in the local context, with regards to debriefing was evidenced in the narratives that follow:

“There was no debriefing, it would have helped, especially after a bad incident or a patient suddenly demised. I think for everyone involved ... the main thing is ... you are not alone. My supervisors lacked the psychological tools ... lacked leadership skills.” (D.20.M.).

“Never happened, we wouldn’t have had such a high anxiety level and ... fear ... frustration, aggression and irritability. With my colleagues the way they are talking to each other, it’s like they’re fighting with each other.” (PN.12.F.).

‘No debriefing, you are told not to resuscitate ... they die. Then you think if I did something they wouldn’t have died. Would have helped if the supervisor was ... empathetic ... don’t look at a person as a unit ... you look at them as a person.’ (PN.19.M.).

“It would have helped ... I think if they did that for us ... by wave one and two when it was the worst.” (EN.3.F.).

These narratives capture the distress, guilt and turmoil that nurses and doctors endured when their patients passed on. They all agreed that they would have felt better emotionally, if they had received some opportunity to share and receive empathy and support. Knott (2021: 22) supported the need for debriefing sessions, saying that it had helped American hospice nurses during the COVID-19 pandemic, to deal with work alteration schedules, the related lack of support, challenges with the lack of COVID-19 guidelines, the sharing of traumatic experiences, issues with infection control procedures and barriers to patient care. Her study documented the need to introduce debriefing to manage compassion fatigue and burnout during the COVID-19 pandemic. It reflects the

various aspects that healthcare authorities must prioritize as areas deserving attention, for future pandemics (Knott 2021: 22).

Perhaps one of the most noteworthy issues identified within the current sample, was the lack of support that they received from supervisors, particularly when confronted with ethical dilemmas related to patient care. They believed that the pandemic had dehumanized them by reducing them to entities within a given healthcare unit, as opposed to individual, discrete beings, who required support and care themselves.

The lack of support, which is suggestive of poor leadership skills locally, was shared as follows:

“No support from matrons, they did not do physical rounds. They did telephonic rounds ... I was annoyed, we had so many problems. I felt that they were not doing their jobs as administrators effectively ... this was due to poor leadership.” (PN.1.M.).

Healthcare workers alluded to the disjuncture between frontline workers and administrators, which suggests the need for management to have been closer on the floor and in the direct spaces of the workers, so they could have had a better understanding of the realities healthcare workers were confronted with. Researchers such as Stafford, Leon-Castelao, Ikkink and Qvindesland *et al.* (2021: 5) therefore recommended clinical debriefing in everyday practice, saying it strengthens overall team resilience and well-being, by mitigating stress, promoting a culture of lifelong learning and improving patient care (Stafford *et al.* 2021: 5).

- **Availability and accessibility of formal psychosocial support programs for healthcare workers**

Data in this sub-section supports the need for formal psychosocial support programs to be available to healthcare workers. Participants shared their views on the availability of such support structures as follows:

“One time in ICU or internal medicine, anaesthetics put out, SADAG (South African Depression and Anxiety Group), toll free number for counselling ... I did not use it. Nothing institutionally or counselling.” (D.20.M.).

“It was a while before the hospital started offering the services, sometime after the second wave but I stand to be corrected. Was more if you want to go ... if you thought that you were not coping then there was the EAP facility, which was opened for us to go.” (PN.5.F.).

“You could go to EAP, but to find the time after work after nursing patients the entire day, who are dying, you are ... physically and mentally exhausted. You are not going to come after hours and then go see EAP. The other thing was, psychologist ...seeing somebody else ...they are not in our shoes.” (PN.10.F.).

“Absolutely not. We weren’t provided with ... service of having a social worker, psychologist.” (PN.6.F.).

“No, our department ... EMS ... doesn’t even have a psychologist ... no EAP. We had guys working for us that have taken their own lives.” (P.13.M.).

Where these services were available, a doctor said:

“We were dealing with so many people dying in the ICU. I spoke to the psychologist at “Hospital 1” to come and talk to us. They said, they are short staffed ... a lot of fear ... refused to see our patients point blank ... even to stand outside the unit and talk on the phone. Refused to come to the third floor.” (D.18.F.).

These narratives capture the huge gap in the healthcare system, with regards to formalized psychosocial interventions for healthcare workers. One doctor affirmed that institutionally there were no support groups or counselling, except for being directed to the South African Depression and Anxiety Group for help. Whilst the Employee Assistance Program existed, the sheer toll of nursing critically ill patients left nurses too exhausted to go for help. The fact that psychologists refused to provide support reflects their own fears and confirms the notion that both healthcare workers and patients had to navigate the complexities of the pandemic without mental health support.

Other studies with healthcare workers, from 17 European countries found that psychologists at hospitals, were provisioning face to face psychosocial support, to healthcare practitioners, working collaboratively in crisis response teams and providing services on hotlines to reach staff remotely and after-hours (Karekla, Hofer, Plantade-Gipch and Neto *et al.* 2021: 10). In Lithuania the Psychological Association provided remote psychological help for healthcare workers, whilst the Cyprus Psychological Association reached healthcare workers by organizing webinars, initiating a helpline and establishing a support network. Karekla *et al.* (2021: 10), found that not all programs for the provision of psychosocial assistance were in house, within these countries and that various governments, had developed different strategies to reach their healthcare workers. These strategies affirm valuable ways that South African healthcare authorities can ensure that psychological support is provisioned for practitioners.

Whilst some studies confirm the presence of psychologists on-site, as well as psychology interns, who were available to staff for debriefing, the extent of this availability within South Africa, appears weak, in the light of data within the current study (Kazadi, Watermeyer Besharati 2024: 7). Other studies confirm that psychological debriefing occurs as part of wellness programs thereby strengthening the need for its inclusion within wellness programs (Watermeyer, Madonsela and Beukes 2023: 6). However, even this is insufficient and more formalized mental health therapeutic services, is crucial given the mental health sequelae emerging from the pandemic, as evidenced in the data. The National Institute for Occupational Health of South Africa, has recognized the importance of psychosocial assistance for healthcare workers, saying that such interventions, should be provisioned timeously when an individual presents with “overwhelming thoughts, feelings or behaviors, that obviously put themselves or others at risk” (Republic of South Africa. The National Institute for Occupational Health of South Africa. 2020: 5). The lack of same during the pandemic, however, suggests that the mandate of the Institute was not followed. Despite the advocacy of the WHO, the presence of psychological support programs for healthcare workers appears sparse within the scholarly literature (Buselli, Corsi, Veltri and Baldanzi *et al.* 2021: 5). This prompted Chigwedere, Sadath, Kabir and Arensman (2021: 28) to urge governments to mobilize resources in respect of psychological services for healthcare workers.

Some participants also expressed a desire for early access to information regarding available resources during the initial stages of the pandemic.

“We needed timeous psychological care ... early in the pandemic. This should be ongoing ... even after the pandemic as we work under lots of stress. If we were given the details of the resources on duty and after hour services, perhaps we would have used them and it may have helped us.” (D.2.F.).

Some doctors shared that they had been provided with contact information for psychological services that they could access. Whilst this may have potentially mitigated psychological issues, the presence of dedicated mental health support services was crucial given the debilitating mental health effects of working within the pandemic. One of the doctors discussed the need for support networks to be established. This could enable healthcare workers to share their experiences, offer mutual support to each other, and collectively navigate the path to psychological recovery. These healthcare professionals emphasized that access to such networks and support systems should not be limited to emergencies like the COVID-19 pandemic, but rather, it should become a standard practice, as these resources were essential for practitioners functioning in stressful environments. Celmece and Menekay (2020: 6) proposed the establishment of institutional mental health intervention teams, who could be tasked with the creation and distribution of informational brochures, with details of available mental health services, such as counselling and psychotherapy and access to mental health professionals.

These narratives reflect the huge gap in mental health service delivery in South Africa and reflect the deep neglect of therapeutic support for healthcare workers, who encountered huge levels of trauma at the height of the pandemic. It further reflects the total disregard for the effects of post-traumatic stress disorders which many healthcare workers may still be grappling with, given the absence of tangible and accessible mental healthcare locally.

4.4.13.1.3 Sub-theme 3: Colleagues as a support system

In the absence of formal mental health services, many healthcare workers shared that they received comfort and support from colleagues as follows:

“Received support from colleagues and other doctors in the digs ... we just chat about our days. I think that it is easier to understand someone who is going through the same thing as you are. You did not have to explain everything in detail and they just understood.” (D.6.F.).

“We realized we were in this together, we were the only people allowed to move around relatively freely. If, our colleagues were sick at that stage, we were the only people that could take their medication, take them food, you know, help them. I think it made us more solidified.” (D.18.F.).

These narratives highlight the valuable role healthcare workers played, in comforting and supporting each other, as they were able to empathize with each other's plight. Given the significant levels of ostracism and stigmatization, fellow healthcare workers were able to take medication and food for their colleagues when they took ill. This form of support was even more crucial, as they were permitted to move around more freely, thereby preventing them from being isolated during their recovery period.

Similarly, researchers in Pakistan and Ireland reported that healthcare workers, supported their colleagues thereby helping them to cope better and strengthen their relationships amidst the life changing circumstances of the pandemic (Usman, Cheng Ghani and Gul *et al.* 2023: 10255; Tengbe, Kamara, Ali and Koroma *et al.* 2021: 6). In Sierra Leone health care practitioners used an electronic forum, where they posted audio clips that depicted them describing the events of the day. They used this forum to provide guidance on coping with the stress colleagues were encountering (Usman *et al.* 2023: 10255; Tengbe *et al.* 2021: 6). In Norway, healthcare professionals expanded their responsibilities by offering guidance and assistance related to the challenging aspects of patient care, which inadvertently alleviated their colleagues stress associated with managing an unfamiliar virus (Bondjers, Lingaas, Stensland and Atar *et al.* 2023: 4). The enhancement and strengthening of peer intervention support programs has consequently received support in South Africa and should be implemented in anticipation of future disasters (Mokhele, Manyapelo, Sifunda and Dukhi *et al.* 2022: 8).

Others believed that the establishment of formal support groups within the workplace could have helped them cope with their psychological challenges.

“It would have been nice if we had a forum in the workplace where we would be given the opportunity to share our stories, with people going through the same thing as us or understand ... talk about experiences ... a formalized group ... and informal groups ... just to know that you are not alone, to heal and prevent long lasting effects on us.” (D.11.F.).

Horne, Veggeland, Baathe and Drewes *et al.* (2023: 7) advocated for the implementation of peer support groups, to strengthen psychological support amongst healthcare workers saying, that these groups offered doctors with a platform to address various occupational, personal, and private challenges. Such peer support initiatives afforded healthcare professionals a psychologically secure, adaptable, informal, and confidential environment (Horne *et al.* 2023: 10). Furthermore, peer support initiatives create a sense of belonging and solidarity amongst healthcare professionals (Carbone, Ferrari, Callegarin and Casotti *et al.* 2022: 14).

The sub-theme that follows underscores the importance of family members as a source of strength and comfort.

4.4.13.1.4 Sub-theme 4: Family and other loved ones as a support system

Participants shared the invaluable support they received from their families as they grappled with their work life during the pandemic. They said:

“Every day I would chat with my mom and my sisters ... a WhatsApp chat group. They would check in with me and ask me how I’m doing. They would say prayers for me and send me lots of spiritual guidance over the phone.” (PN.5.F).

“My wife ... she would always come and spray my hands, boots. Family advised me to take precautions ... steam with Vicks.” (P.2.M.).

“I don’t think I would survive my day without my family... if they were not around there would be a big difference in my life, they are the ones that support me and help me through my days.” (P.13.M.).

Family support ranged from emotional support, which enabled practitioners to cope with the incessant stressors of the COVID-19 pandemic, to ensuring their safety and wellness

by assisting them with sanitizing protocols and other alternative practices for wellness. Family support through video calling helped participants to stay grounded and connected to loved ones as evidenced in other studies as well (Romate and Rajkumar 2022: 12). Given the lack of mental health services, family members were invaluable in listening to and helping healthcare workers come to terms with their traumatic experiences, Researchers also discovered that family members had eased the burden of healthcare workers by taking over their household chores, such as cooking and caring for their children and pets (Tekin *et al.* 2022: 8). The sub-section that follows, captures the salience of public support.

4.4.13.1.5 Sub-theme 5: Public support

Public support also seemed to strengthen health care workers, as it demonstrated their appreciation and respect for them as follows:

“We had lots of like charity organizations that donated stuff to the nurses. Once or twice we received, goodie bags from other organizations, which made us feel so like appreciated ... social media, where they had a lot of prayer groups ... encouragement.” (PN.5.F.).

“Shopping centers ... made concessions at the supermarkets for us to have our own queue to get our stuff. People prayed outside the hospital ... it was rewarding ... people out there noticed how hard you work. They appreciate the fact that we went above and beyond our duty ... it was nice.” (PN.7.M.).

Nurses felt a deep sense of appreciation through gestures made by the public. They felt that their valiant efforts did not go unnoticed, as the public institutions supported and honoured them by praying for them and through the provision of care packages and ensuring that they were prioritized in shopping queues.

The Chinese populace demonstrated their support for healthcare professionals by contributing a variety of items, including food, beverages, gifts, doughnuts, cookies, juice, cupcakes, and vitamin C supplements. Additionally, healthcare workers received letters of encouragement, which they found uplifting and beneficial to their overall well-being

(Shan, Wang, and Su 2022: 13). In a similar vein, healthcare workers in the United Kingdom expressed gratitude for the positive messages and donations, particularly valuing the protective visors provided by the public, alongside food contributions (Vindrola-Padros, Andrews, Dowrick and Djellouli *et al.* 2020: 6). These gestures and support mechanisms are powerful examples of support, which are deserving of ongoing support in the healthcare sector. Hence they should be included as activities to be nurtured within wellness programs.

4.5 Conclusion

Chapter four presented the data through the lens of diverse groupings of health care workers. A holistic analysis of the data gathered from all categories of healthcare workers was presented, together with a critical analysis of same. This analysis was supported by contemporary literature related to COVID-19.

Chapter five, which follows presents the development of a holistic program, which emerged from the data, scholarly literature and an expert focus group. This program contains interventions that can enable the wellness of healthcare workers. These interventions can be integrated into current wellness initiatives within the healthcare sector or adopted as a new program to address the mental health sequelae of the pandemic. Overall however it can support healthcare workers, who continue to work and care for patients within resource limited and stressful healthcare environments.

This chapter is concluded with the following quotation:

“There is a word in South Africa – Ubuntu – that describes his greatest gift: his recognition that we are all bound together in ways that can be invisible to the eye, that there is a oneness to humanity; that we achieve ourselves by sharing with others, and caring for those around us” (Barak Obama)

CHAPTER 5

5.1. Introduction

Chapter four contained an analysis and discussion of the findings made, within the current study. This chapter presents an overview of the developmental or design process that guided the development of the holistic wellness program. Objective six of this study focused on the recommendations for the development of a holistic program that would support the wellness of healthcare practitioners during and after the COVID-19 pandemic.

The design of this program was informed by data collected from interviews with the health care practitioners, from evidence based holistic wellness practices in the literature, and through the insights of wellness experts who had knowledge of and experience in wellness interventions. Consequently, the program design emerged from these three primary data sources.

A wellness program can be defined as a program that provides individuals with a variety of interventions and lifestyle choices designed to encourage healthy living practices (Baveja, Counihan, Hayward and Lis *et al.* 2019: 3). The key wellness strategies emerging from the data collected from the healthcare professionals, wellness focus group members and through the literature searches, were then interweaved into a holistic wellness program, to meet the final objective of this study. Given that wellness is defined as a state of optimal physical, psychological, social, emotional, and spiritual health, the program is underpinned by holistic wellness interventions that can potentially enhance overall well-being (Kauppi *et al.* 2023: 14; Shreffler, Petrey, and Huecker 2020: 1064; Kaye-Kauderer *et al.* 2022: 418; Maffoni, Kalmpourtzidou, and Cena 2020: 7).

5.2 The process of developing the holistic wellness program

The process used to develop the wellness program is presented briefly in the subsections that follow. While the program's development was informed by the principles of intervention research, the practical limitations imposed by the scope of objective six necessitated a selective application within this research framework (Fouche, Strydom, and Roestenburg 2022: 468).

5.2.1 Wellness interventions recommended by healthcare workers

The design of the holistic wellness program emerged primarily from the data collected during the interviews with healthcare practitioners. Their insights, recommendations on how to regain their wellness and the strategies that they saw necessary to interweave within the current healthcare system, formed the foundation of this newly designed program. These participants had lamented the absence of robust mental health support during the pandemic and consequently identified some of the strategies that needed to be included within the newly changing landscape of the healthcare sector post the COVID-19 pandemic. As the pandemic waned, these participants acknowledged the effects of post-traumatic stress and long COVID-19 symptoms, coupled with the stress of working in highly stressful yet under-resourced environments. This underscored the need for a wellness program and interventions that could continue to nurture their resilience and strengthen their well-being.

The data linked to the design of this new program, is presented in Table 5.1, and elucidates the interventions that the healthcare practitioners had identified. The excerpts from the healthcare practitioners illustrated the emergence of four predominant themes, i.e. biological/physical, psychological, social and spiritual interventions. Table 5.1 presents the interventions under the biological, psychological, social, and spiritual domains, which coheres with the biopsychosocial-spiritual model that underpins the study. The direct quotations depict the codes.

Table 5.1 Interventions recommended by healthcare practitioners

Domain	Biological interventions: Excerpts	Participants
Biological	<i>"Increase physical exercise in the home."</i>	D.5.M.
	<i>"Rest on my days off and having healthy meals."</i>	PN.5.F
	<i>"Go to the gym, exercise, run, play soccer, get to keep fit and meet friends, helps us not to be anxious and stressed all the time."</i>	P.1.M.
Domain	Psychological interventions: Excerpts	Participants
Psychological	<i>"Psychological support for healthcare workers must be clearly delineated in disaster plans and operationalized as soon as a crisis occurs. Not after the second wave when</i>	RN.1. M.

Domain	Psychological interventions: Excerpts	Participants
	<i>the damage is done. Nevertheless it is not too late, people now have PTSD which must be managed."</i>	
	<i>"A team of readily available psychologists, social workers and EAP practitioners that are committed to caring for the well-being of staff all the time, offering counselling, not during a pandemic only, we work under a lot of stress, something in place all the time."</i>	D.17.M.
	<i>"Practice gratitude, be grateful and have a positive mindset."</i>	D.1.M.
	<i>"Debriefing, share stories, talk about experiences just to know that you are not alone. Seniors to also avail themselves and counsel juniors."</i>	D.4.F.
	<i>"I would put psychological support at the top, we all need counselling. There were so many deaths, no closure ... memorial day to honour those who lost their lives."</i>	D.13.F.
	<i>"Write about how you feel, in your own words, just express your thoughts in feelings, story, it will help you heal. I kept a diary."</i>	RN.13.F.
	<i>"Give a letter of appreciation or a certificate to say, thank you for serving during the pandemic, you would feel good about yourself."</i>	E.N.1.F.
Domain	Social interventions: Excerpts	
Social	<i>"Keep in touch with colleagues and friends via video calls, social media, use social media for entertainment, play online games, read books, join book clubs and watch movies. Form a group with colleagues to play online games as you can build relationships and destress. Creative ways for team building like zoom, virtual games, social distance picnics after work."</i>	D.3.M.
	<i>"Take the children out to the park, allows you to destress, it is a change of scenery, go to the movies, go on holiday's helps you enjoy life and bond as a family, keep in contact with family, chat to family on WhatsApp, family is a good source of support."</i>	D.8.F.
	<i>"Do handwork like crochet, woodwork and spend time in the garden, planting own vegetables, makes you feel accomplished and fulfilled. Read, take a leisurely walk in the garden."</i>	D.12.M.
	<i>"Financial support for healthcare workers who were sick and hospitalized, some had medical aid but it was not enough. Sometimes hospitals did not have beds for healthcare workers, there should be some arrangements for this."</i>	D.13.F.
	<i>"There should be some support for healthcare workers and their families when they get sick, not only them but follow up should be made with the family. This support should be provided all the time not just during crises periods."</i>	D.21.F.
	<i>"Get together with family, have a meal together, attend family celebrations like weddings, bridal showers, birthday parties."</i>	EN.2.F.
Domain	Spiritual interventions: Excerpts	
Spiritual	<i>"Practice mindfulness and yoga."</i>	D.1.M.
	<i>"Pray to conquer battles."</i>	D.3.M.
	<i>"Like listening to music and things like that."</i>	D.15.M.
	<i>"Play musical instruments."</i>	P.9.M.
	<i>"Every workplace should have a quiet place that we can go to when we need to get away from the busy wards, to destress and regroup our thoughts. When I worked at a hospital with a chapel, I used to go there and just pray quietly."</i>	PN.13.F.

Domain	Spiritual interventions: Excerpts	
Spiritual	<i>"I think that there should be multi-faith spiritual teams attached to hospitals, sometimes you need that immediate spiritual counseling, it grounds and makes you realize that you are here for a purpose, patients will also benefit from this. So even without a pandemic we need spiritual services available in the workplace."</i>	PN.14.F.
	<i>"Going forward management must consider that we are human beings with spiritual needs and make provision for this."</i>	PN.17.F.

The data presented in Table 5.1, above was the first source of data for the development of the holistic wellness program. The second source of data was data that collected from the focus group of wellness experts.

5.2.2 Wellness interventions recommended by expert focus group members

Chapter three provided a comprehensive overview of the expert focus group, detailing the characteristics of its members, the procedures employed for data collection, and the methods used for data analysis. The themes that emerged from the expert focus group discussions are presented in Table 5.2. The four overarching themes were biological/physical interventions, psychological interventions, social interventions and spiritual interventions.

The table below presents a synthesis of the research findings, outlining four overarching themes and their associated coded data (within the quotations). Direct participant quotations served as primary evidence for the derivation of these codes. While all participants were afforded equal opportunity to contribute to the focus group discussions, the extracts presented below were selected based on their illustrative clarity and depth. In instances of significant data redundancy, representative excerpts were chosen during the data reduction process to enhance the conciseness and impact of the findings.

Table 5.2: Themes emerging from expert focus group

Theme	Excerpts	Focus group (FG) member
Theme 1	Biological/ Physical interventions	
	<i>"Stay healthy by ... having adequate rest and sleep."</i>	FG.3
	<i>"Eat healthy meals, take healthy packed lunches to work-affordable, less alcohol, and drink healthy protein drinks and fruit juices. Dieticians should be included to provide information to healthcare workers on a balanced and healthy diet. Exercise like muscle training, stretching."</i>	FG.2
	<i>"Join a Zumba or aerobics class, it will help to build muscle, improve circulation and build your resistance. You will also meet people and socialize. Join these groups if available at work. Managers should make arrangements for staff to attend."</i>	FG.2
	<i>"To keep physically active, do some exercise, indoor, if one cannot go outside. It is important to have healthy meals and have enough rest and sleep, to maintain long-term wellness. Join a gym, to strengthen your muscles and exercise your joints will prevent other physical problems. Hospitals can negotiate for discounts for healthcare workers. Physical fitness helps you build up your immune system against diseases. Set up outdoor gym area with equipment, in hospital garden, it will be low maintenance. We cannot wait for a disaster to try and get fit, if healthcare workers take care of themselves all the time during these periods they will cope better in times of crises and stress."</i>	FG.3
	<i>"Start a walking group with family and friends, you will be exercising, relieving stress and socializing, start walking groups at work, you will exercise, communicate, socialize, decrease anxiety and stress, outdoor gyms are becoming popular, perhaps have equipment set up in hospital gardens. Improve the condition of tennis courts, swimming pools, squash courts, netball and soccer fields where they are available and encourage staff to use these facilities that are free to them."</i>	FG.8
	<i>"Access to healthcare services: provide regular health check-ups. Nutrition and rest: provide healthy meal options or nutrition workshops and ensure adequate rest breaks to reduce physical stress. Vaccination programmes for healthcare workers. On-site fitness programmes: offer gym access or fitness classes to encourage physical activity and combat fatigue."</i>	FG.6
	<i>"Occupational health clinics need to have identify healthcare workers with long COVID-19 symptoms, do periodic examinations on them, and write reports. Follow up on their progress 6 monthly and assess how they are after two years. Advocate for their correct placement as they sometimes cannot return to the jobs that they did previously.' It is important that there is an occupational health component within the wellness committee that can identify staff with long COVID-19 symptoms and management them according. It will reinforce the notion that they are care about and they will be more productive in the workplace."</i>	FG.5
	<i>"Hospitals to provide a space for indoor activities for staff. Ensure that wellness policies are implemented, so that staff can be released to attend wellness activities. Activities should be accessible to all."</i>	FG.1
	<i>"Encourage colleagues to join you and form a walking group to walk during breaks. It is exercise plus it can help you build strong collegial relationships. "</i>	FG.5

Theme	Excerpts	Focus group members
Theme 2	Psychological interventions	
	<i>"Supportive culture: Promote kindness in the workplace through initiatives like the "Kindness Challenge", where staff are encouraged to do small, thoughtful acts (e.g., leaving a kind note or pick a flower in the garden and put it on a colleague's desk) to brighten their day. Build peer support networks, including mentoring programmes, support groups, or team-building activities to foster a sense of belonging."</i>	FG. 6
	<i>"Establish a multi-disciplinary wellness committee which will drive the process for staff wellness: EAP practitioner, psychologist, social workers, occupational health doctor and nurse, dietician, human resource representative, trade union representative, public relations officer."</i>	FG.12
	<i>"Provision of counselling for psychological problems like stress, anxiety, fear, post-traumatic stress disorder should be prioritized."</i>	F.G.12
	<i>"Holistic wellness, two levels of interventions, organizational level and individual level. If such interventions were in place or encouraged during the pandemic it could have limited the stress experienced by healthcare workers. Post the pandemic it is now even more critical that wellness interventions are implemented to prevent long-term psychological effects and help staff to build resilience. Wellness initiatives in the workplace are reliant on effective commitment and leadership."</i>	F.G.11
	<i>"Debriefing and supervision: Provide regular clinical supervision and structured debriefing sessions after traumatic events to help staff process their experiences and prevent emotional overload. Daily check-in, staff members participate in a brief check-in each morning to help identify anyone who may be experiencing emotional distress or in need of support. Burnout prevention, encourage manageable workloads, regular breaks, and time off."</i>	FG.7
	<i>"Mental health support, offer access to counselling services, Employee Assistance Programmes and mental health workshops. Stress management, provide training in mindfulness, relaxation techniques, and trauma-informed care through online or in-person sessions."</i>	FG.6
	<i>"Leaders or managers need to embrace the use of technological methods to communicate more frequently with staff and their families. Consistent and clear communication, policies, check on their well-being, be approachable and compassionate, allow for debriefing and refer them appropriately."</i>	FG.12
	<i>"Adopt a positive mindset, focus on positive affirmations, share daily positive and motivation messages with colleagues and family. Wellness committees and managers can also share weekly messages with the staff, it will motivate and uplift them. Practice gratitude, what 2 or 3 things you are grateful for on each day, even saying grace, kindness, compassion and empathy. Research and learn about the ABCD of mindfulness, meditation and implement in daily life. Practice mindfulness in all areas of life such as decision making, finance, eating, there are a range of mindfulness interventions. Keep gratitude and reflection diaries or journals. It gives purpose to life, helps one reduce stress and anxiety."</i>	FG.4
	<i>"Be positive, set goals plan for the future with family. You will have something to look forward to, gives you hope. Celebrate birthdays, small successes such as weight loss."</i>	FG.2
	<i>"Encourage self-care, it important to take care of oneself. As much as you feel for others, showing compassion, you must also be compassionate to yourself. It is okay to feel not okay and seek help."</i>	FG.4

Theme	Excerpts	Focus group members
Theme 2	Psychological interventions	
	<i>"Refer at risk employees and encourage the employees to seek counselling from Lifeline, SADAG and the hospital resources when they need it. The EAP (employee assistance) practitioner, PRO (public relations officer) and social worker can develop posters and pamphlets with the details of all the resources that healthcare workers can use during and after work hours and circulate to the staff. Encourage the staff to also save this information on their phones."</i>	FG.10
	<i>"Form peer support groups. We need to be able to see when our colleagues have problems and advise them to go for counselling. Talking to each other about problems lessens fear, anxiety and stress. Need to have people trained in psychological care working with us ... maybe colleagues."</i>	FG.2
	<i>"Acknowledgement of staff, although the government gave healthcare workers 5 days of additional leave, this year, it was late and therefore I feel that healthcare workers need to be acknowledged and appreciated immediately, tokens of appreciation certificates, must be continuous."</i>	FG.1
	<i>"Host a memorial day for those who have lost their lives during the pandemic and a gratitude day for those who worked tirelessly. Employees will feel that their colleagues are honoured and did not die in vain ... it will help with healing and closure as many have not yet come to terms with the loss experienced."</i>	FG.9
	<i>"Maintain open and continuous communication with family, friends and colleagues it would help decrease stigma and reduce stress. Informed about what is happening, healthcare workers need their support. Communication from sources closer to them would be more effective. Managers need to be visible, visionary leaders and lead with compassion. This study and these interventions are not only relevant for a pandemic. The pandemic had highlighted all the gaps, the continuous stress and strain that our healthcare workers endured. Post this pandemic we need to actively assist our healthcare workers build their resilience by implementing robust wellness programmes."</i>	FG.9
	<i>"Participating in peer support: join or initiate informal support groups to connect with others who understand the emotional demands of healthcare work. Use techniques like meditation, deep breathing, or grounding exercises to reduce stress."</i>	FG.6
	<i>"Laughter is good to relieve stress and anxiety. Watch comedies and read books that will make you laugh. Also find online programmes on the value of laughter and use it in your daily life. Share funny experiences with friends and family."</i>	FG.3
	<i>"Self-reflection: journal or engage in reflective practices to process emotions and experiences. Seeking professional support: reach out to a counsellor or therapist when feeling emotionally overwhelmed. Empower self to understand that you are feeling stressed. Keep a list of telephone numbers of resources that are available for counselling, go immediately for counselling when you are feeling stressed. If there is a need go for family therapy and group therapy."</i>	FG.4
	<i>"Encourage employees to take their lunch breaks away from the immediate work environment to relieve stress."</i>	FG.2

Theme	Excerpts	Focus group members
Theme 2	Psychological interventions	
	<i>"Avail yourself for training that takes place at work as it reduces fear and stress as you know what to do."</i>	FG.1
	<i>"Familiarize yourself with the work processes and keep up to date with the policies as it will help to reduce stress."</i>	FG.11
	<i>"Develop a culture of appreciation for staff, a simple 'thank you, well done. Will make the employees feel valued and uplift their morale.'"</i>	FG.11
Theme 3	Social interventions	
	<i>"Social support: connect with community groups, support circles, or friends to avoid isolation and promote belonging, use technology, WhatsApp, calls, video calls. Need to create a support network outside work. Quality time: spend meaningful time with loved ones through shared activities like meals or walks. Kindness in action: practice kindness within your team or family, fostering connection and emotional upliftment. Family-friendly policies: Provide childcare options, family leave, and opportunities for staff to attend to personal obligations. Community-building opportunities: Encourage team social events or group wellness activities to strengthen interpersonal relationships."</i>	FG.6
	<i>"Have virtual: picnics, parties, play games, games night. It helps to keep your mind occupied, prevents loneliness, you will not feel isolated. It will reduce stigma as family and friends will see you and speak to you on online platforms. Entertain your friends and family, host a games night in your home, take turns to do so it maintains healthy strong relationships. Adopt a pet, dog or cat, prevents loneliness."</i>	FG.3
	<i>"Engage in board games like chess, card games with colleagues at work, have inter-departmental competitions, something to look forward to. Helps you feel joy and reduces stress. Managers are to encourage healthy activities. Adopt a pet, it gives you a sense of purpose and prevents loneliness. Take up hobbies...knitting, crochet, sewing, puzzle making, karaoke, play musical instruments...prevents boredom, feel like you accomplished something, you feel good."</i>	FG.4
Theme 4	Spiritual interventions	
	<i>"Borrow books from the library or download online books and read for enjoyment and stimulate thinking. Gives you a sense of peace while you relax."</i>	FG.11
	<i>"Incorporation of Mindfulness-Based Stress Reduction (MBSR): Consider adding structured MBSR programmes. These are well-researched and can effectively reduce stress and improve mental well-being. They integrate meditation, body awareness, and yoga, making them a perfect fit for healthcare workers. Mindful Breathing Workshops: Introduce short, practical workshops on mindful breathing techniques that can be easily integrated into daily routines. Encourage short, daily mindfulness moments during shifts, where staff can pause for a few minutes to engage in meditation or mindful breathing. Refer to the works of Jon Kabat Zin, Dr Bessel van de Kolk and Gabor Mate."</i>	FG.7
	<i>"Guided Meditations: Offering recordings or live sessions (even via online Platforms if the teacher/facilitator is unable to physically be present) of guided meditations tailored for"</i>	FG.7

Theme	Excerpts	Focus group members
Theme 4	Spiritual interventions	
	<i>healthcare settings could be beneficial. These could focus on stress relief, compassion, and resilience."</i>	
	<i>"Engage with multi-faith leaders in the community, have multi-faith team to provide spiritual counselling to staff and patients. Host universal prayer days. Include staff members who are spiritual leaders to be actively involved in these activities. Provide a quiet and tranquil place where people can go and pray, even if there is a chapel, there needs to be a safe for all faiths."</i>	FG.2
	<i>"Faith leaders from different faiths to assist healthcare workers. Even cultural practices should be allowed. Hold online services for staff, send spiritual messages. Send podcasts to staff, they can listen to them in their free time."</i>	FG.3
	<i>"Identification of a calm room or chill room. If a person needs, time out a five minute break if they are overly stressed and emotional, to re-group and go back to work. An area to relax and reflect, regroup thoughts, meditate a bit and return refreshed and rejuvenated to the work station. If there is a chapel, ensure it is accessible to staff."</i>	FG.4
	<i>"Therapeutic interventions: facilitate group therapy sessions, art therapy e.g., painting, creative expression, and music or sound healing for emotional release and mental restoration. At home, creative self-care: use art, music, or other forms of creativity for emotional expression and healing."</i>	FG.6
	<i>"Join a choir at work, church, community and sing for enjoyment and in competitions. Gives you a sense of purpose, it is enjoyable and can lessen fears of anxiety and stress. Employers are to encourage staff to participate in such activities and accommodate them when they need to go for practice."</i>	FG.10
	<i>"The wellness team need to explore applications with wellness interventions and share links with healthcare workers. Mindfulness, meditation, healthcare organizations should drive this process and arrange for training for the employees which they can practice in their own time at home. Wellness teams must encourage healthcare workers to adopt these practices."</i>	FG.12
	<i>"Within the organization, the employer can: respect for diversity: honour diverse spiritual practices, allowing time and space for individual religious or spiritual observances. Designated quiet spaces: offer calm areas for prayer, reflection, or meditation. Purpose and meaning: reinforce the life-changing impact of healthcare work, helping staff reconnect with the purpose behind their roles. Spiritual care resources: provide access to chaplains or spiritual counsellors for those seeking personal guidance. Spiritual healing programmes: Organize nature-based wellness activities like outdoor retreats, nature walks, or spiritual workshops to help reconnect with inner peace and nature."</i>	FG.6
	<i>The employee-spiritual practices: Engage in daily prayer, meditation, or rituals that align with personal beliefs. Nature connection: spend time outdoors (e.g., walks, hiking, gardening) as a form of spiritual grounding and healing. Family rituals: involve family members in shared spiritual practices to nurture a sense of collective peace and unity. Personal spiritual growth: seek individual spiritual counselling or reflect on life's deeper meaning to enhance resilience and well-being. Community or group prayer: participate in shared prayer or meditation sessions to find support and healing in unity."</i>	FG.6
	<i>"Gardening is a holistic intervention. Allows some physical activity, social activity but involves a deep connection with nature, giving you peace and feelings of calmness. Involve family in gardening activities. Feeling of togetherness, share gardening experiences with work"</i>	FG.3

Theme	Excerpts	Focus group members
Theme 4	Spiritual interventions	
	<i>colleagues, share gardening tips and plants can help build collegial relationships and reduce stress. Hospitals to have therapeutic gardens, encourage staff to involve themselves in gardening activities and also potting plants."</i>	
	<i>"Can take up dancing. It is a holistic intervention as it is an enjoyable as exercise and not that strenuous ... it has a calming effect. Dance classes you can also meet other people, so it keeps you fit but makes you feel happy, calming effect, you are achieving something and you get to meet different people."</i>	FG.3
	<i>Music, dance, prayer, yoga, meditation as spiritual interventions, it calms the mind, reduces anxiety and stress and helps you cope better with challenges. Go out and enjoy nature, go on retreats. It helps you to appreciate nature whilst enjoying the fresh air which helps with distressing."</i>	FG.3
	<i>"Schedule regular yoga sessions, perhaps with a focus on restorative yoga, which is particularly beneficial for reducing stress and promoting relaxation. Promote quick yoga breaks during shifts, which can help alleviate physical strain and mental fatigue."</i>	FG.7
	<i>"Read interesting poetry and try and keep a book and write your feelings and experiences in the form of poems This can be very healing."</i>	FG.9
	<i>"Spiritual books or religious books can be placed in tea lounges for staff to read. Management can also engage the librarian to access spiritual books for staff."</i>	FG.3
	<i>"Prayer is important, alone, partner or in a group, pray with family, it gives you hope. You can seek guidance from your pastor, keep in contact, congregation get support from them."</i>	FG.4
	<i>"Read spiritual books, scriptures, practice spiritual Bibliotherapy and meditate on it."</i>	FG.8
	<i>"Enjoy the hospital gardens- relax outside under trees. Management should provide seating areas in hospital gardens and around the ambulance bases". Enjoy nature, connect with nature, for distressing, make you feel calm and rejuvenates you to go back to work with a fresh mind. On days off take the family to the park, enjoy being outside, fresh air."</i>	FG.5
	<i>"Continue with family spiritual and cultural practices as it gives them peace, it is not harmful for them but it may bring about healing."</i>	FG.8
	<i>"Watch online services, join spiritual groups and share spiritual messages with family, friends and colleagues. Gives you a sense of peace and purpose."</i>	FG.1
	<i>"Practice meditation, learn from online courses. It helps to calm the mind."</i>	FG.12
	<i>"Listen to spiritual music, download a music app on your phone. Relaxing and calming so it reduces stress."</i>	FG.10
	<i>"When you are feeling down and need upliftment, visit the chapel or quiet place to meditate."</i>	FG.5
	<i>"Create a close knit with colleagues, people that you can vent to and stressed and pray or share a scripture, this will help you calm down, and decrease stress. Visit places of worship."</i>	FG.8

These interventions detailed in Table 5.2 above, supported and extended the thoughts and suggestions made by the health care practitioners who were interviewed. Hence the newly designed program coalesced collectively from both these samples, to guide the

development of a holistic program that interconnected the various physical, psychological, social and spiritual interventions.

The final step within the design of the new program included consideration of the best practices emerging from the literature. This is considered in the sub-section that follows.

5.3 Holistic wellness interventions

The wellness interventions identified in the studies that were reviewed, not only focused on the interventions that could support healthcare workers wellness but also detailed the health benefits or outcomes emerging from the use of such interventions. For example, research studies documented that wellness interventions that could enhance physical health, were also found to positively influence the mental health well-being of healthcare professionals. These evidence-based studies, underscored the interrelatedness of various wellness dimensions, reflecting their potential to support well-being across the biopsychosocial domains in an intertwined and mutually supportive and beneficial way. This supports the need to include holistic strategies that can strengthen the biopsychosocial and spiritual wellness of healthcare workers. Moreover, interventions introduced at the workplace can effectively be extended within the family space and natural world environment or community and spiritual contexts (Melnyk, Kelly, Stephens and Dhakal *et al* 2020: 5; Cohen, Pignata, Bezak, Tie and Childs 2023: 11; Zhang, Murphy, Cabanilla and Yidi 2021: 1). Hence their adoption and integration into the lives of healthcare workers across all levels within healthcare organizations can be effected with ease.

The literature that follows supports some of the interventions identified within the two samples, identifies other salient interventions and affirms how they can be applied within healthcare organizations. It also details some of the health outcomes of these interventions, which will be incorporated into the wellness program, in chapter six.

5.3.1 Physical interventions

Practicing self-care by making healthy choices regarding food, rest and sleep and physical activity is essential for optimal physical and mental health during crises such as

pandemics and post periods of immense stress. Hence it is crucial that healthcare workers recover from and nurture their physical well-being after such stressful periods.

5.3.1.1 Diet, rest and sleep and other physical activities

- **Diet**

Cena and Calder (2020: 1) opined that healthier food choices, includes the consumption of increased plant based foods such as fresh fruits and vegetables, whole grains, legumes, seeds, and nuts. They further advocated for the reduced intake of animal-based foods, particularly fatty and processed meats. Hence, Maffoni, Kalmpourtzidou, and Cena (2020: 7) support a Mediterranean-based diet as it is rich in fresh, nutrient-dense foods to boost immune function, whilst limiting sugar, alcohol, and caffeine intake and increasing the intake of water.

The World Health Organization further advocates for this approach to healthy eating, by emphasizing the importance of balancing energy intake, enhancing the consumption of fruits and vegetables, and restricting the intake of saturated fats, trans fats, sugars, and salt. Researchers further support the notion that healthier diet choices are known to reduce the risk of non-communicable diseases that includes diabetes, cancer, cardiovascular diseases, obesity and cognitive impairment, whilst strengthening the immune system against infection (Maffoni, Kalmpourtzidou, and Cena 2020: 7; Cena and Calder 2020: 1).

Panchbhaya, Baldwin, and Gibson (2021: 616) asserted that educational and behavioral interventions aimed at promoting healthy dietary choices, can significantly enhance healthcare workers' adherence to healthier eating habits. It is consequently suggested that workplace wellness programs, involve educating healthcare professionals about the significance of nutritious food selections and the specific types of foods that they can incorporate into their diets. Such dietary changes are likely to extend beyond the workplace, as healthcare workers are expected to adopt these practices in their personal lives and for their families. Educational activities can take the form of face-face-sessions, group discussions as well as the use of online sources (Panchbhaya, Baldwin, and Gibson 2021: 594). Wolska, Stasiewicz, Kazmierczak-Siedlecka and Zietek *et al.* (2022:

13) emphasized that healthcare workers who work shifts or who bring pre-prepared lunches to work should be encouraged to pack nutritious meals and snacks.

Healthcare organizations can promote healthy eating by implementing policies that ensure nutritious meal options are available in hospitals. Furthermore, healthcare organizations are to provide regular breaks and designated areas for eating and drinking (Maffoni, Kalmpourtzidou, and Cena 2020: 7).

Some researchers support the need to plan and implement regular audits to assess compliance (Abdul Rais, Zakaria, and Jaafar 2022: 193; Maffoni, Kalmpourtzidou and Cena 2020: 7). Moreover, canteen staff, should be trained with regards to preparing appetizing healthy meals, which will ensure that such meals are culturally sensitive, flavourful, and affordable.

In addition, a discount and reward system could incentivize healthcare workers to purchase and consume meals at the canteen (Abdul Rais, Zakaria, and Jaafar 2022: 193). Healthcare organizations can advocate for vending machines in areas without canteen facilities, offering healthy snacks like nuts, dried fruits, and nutritious sandwiches and beverages. Nutritional information through posters and pamphlets should also be made available (Wolska *et al.* 2022: 13; Panchbhaya, Baldwin, and Gibson 2021: 597).

- **Mindful eating**

Mindful eating has been described in literature as an intervention that may be incorporated into a wellness program, to promote healthy eating practices. It enhances the conscious awareness of hunger and satiety, helping individuals respond to these signals and reduce overconsumption, thereby leading to healthier eating habits, increased intake of fruits and vegetables, slower eating, and satisfaction through consuming smaller portions (Tapper 2021: 170; Shaw and Cassidy 2022: 34; Preissner, Oenema, and de Vries 2022: 9). Shaw and Cassidy (2022: 42) identified a link between mindful eating, self-compassion, and well-being, while Inozu and Kose (2023: 637), argued for its importance in promoting healthier dietary choices. Although mindfulness is recognized as a valuable wellness strategy, it however requires that healthcare professionals be trained to practice mindfulness techniques. In the healthcare sector,

effective implementation of new interventions necessitates resource allocation for training or through collaboration with external providers.

Mindful-based eating interventions may be easily integrated within workplace wellness programs through group based workshops, which can be followed up with homework tasks for the individuals who choose to adopt this intervention. Training may also be individualized based on the need for the person receiving such training and through the use of technology training information which can be shared using smartphones (Tapper 2021: 172). Mindful eating interventions are particularly useful for healthcare workers who are at risk of emotional eating (Arslan 2019: 906), which often emerges during periods of stress. Given that healthcare workers have demanding and stressful work circumstances, they are at risk for poor eating habits, emotional eating which occurs through stress and consequently obesity. Hence mindful eating interventions are important in helping them to maintain a healthy weight, thereby preventing chronic diseases.

- **Rest and sleep**

According to Maffoni, Kalmpourtzidou, and Cena (2020: 7), those between the ages of 18 and 60, require seven to nine hours of sleep every night, to maintain their general health and wellbeing. Health professionals require adequate levels of sleep to maintain their cognitive skills like memory, learning, and the capacity to carry out their intricate mental tasks daily (Alanazi, Alanazi, Albuhairey and Akram *et al.* 2023: 1). Due to circadian rhythm disruption, shift workers, including nurses, frequently experience sleep deprivation (Zhang, Murphy, Lammers-van der Holst and Barger *et al.* 2023: 463; Vivarelli and Fenga 2024: 2). Physicians, paramedics, and other medical professionals, who are expected to work shifts may also experience sleep deprivation. However, there are other factors that contribute to healthcare workers' sleep disturbances, such as stress related to witnessing extreme suffering and death (Cleper *et al.* 2022: 6).

Vivarelli and Fenga (2024: 6) proposed the need for policy changes to optimize work schedules and the education of healthcare workers, regarding improving their sleep hygiene practices, optimizing their sleep environments and managing their shifts to

enhance sleep. In addition, they suggested that healthcare workers be trained to change their lifestyle habits and adopt strategies to reduce daytime sleepiness and improve their alertness (Vivarelli and Fenga 2024: 4).

Several interventions which were found to be effective in promoting quality sleep, included for example, inhalation aroma therapy, the consumption of dietary supplements like zinc, exercise, light therapy, cognitive behavioral therapy and exercise (Zhang *et al.* 2024: 6; Jeon, Kim and Shi 2023: 7). Hence educational programs which include information on sleep physiology, sleep hygiene, and fatigue relief, sleep promoting strategies, relaxation, strengthening of sleep, how to make sleep more sustainable, how to manage mood, anxiety and fear, and how to prevent relapses and deal with acute insomnia are recommended. Information about such interventions can be cascaded through face-to-face meetings and mobile technology which was found to be effective in helping people improve their sleep quality (Jeon, Kim and Shin 2023: 7; Zhou, Kong, Wan and Zhang *et al.* 2022: 1950.).

- **Physical activities**

Marin-Farrona, Wipfli, Thosar and Colino *et al.* (2023: 3) argued that physical activities can be easily undertaken during a person's free time or at work. They determined that physical activities that could be incorporated into workplace wellness programs, may include walking, cycling, running, rowing, and strength training with dumbbells, barbells, gym programs, and isometric exercises.

According to Marin-Farrona, Wipfli, Thosar and Colino *et al.* (2023: 3) instruction on such physical activities can be delivered online, in-person, or a combination of both and hence easily integrated within the routines of healthcare organizations. Alternatively, individuals may engage easily in activities, like cycling and walking without any guidance. One potential mechanism to nurture this is to create teams who can record their highest number of steps or activities, thereby encouraging same. Shiri, Nikunlaakso, and Laitinen (2023: 10) found through a review of literature that workplace interventions such as aerobics and strength training, had enhanced general well-being.

Lightsey, Maier, Bono and Kang *et al.* (2023: 140) supported the establishment of 24-hour exercise spaces in hospitals, to promote staff well-being. Such facilities could be equipped with a spin bike, treadmill, rowing machine, squat racks, plates and dumbbells, as was done at a hospital in Boston. The resident doctors included in a study were found to exercise during breaks at work and in the evenings, before going off duty because it was often inconvenient for doctors to access commercial gyms, such facilities can meet their needs to promote physical wellness (Lightsey *et al.* 2023: 142).

The concept of outdoor gyms is also gaining popularity worldwide (Fernandez-Rodriguez, Merino-Marbano, Romero-Ramos and Lopez-Fernandez 2020: S688; Grigoletto, Mauro, Latessa and Iannuzzi *et al.* 2021; 263). Greyling (2016: vii) added that the concept of outdoor gymnasiums, is also growing rapidly in South Africa. Baron-Epel and Ran (2023: 1051), further argued that outdoor gyms can be a way of encouraging people to take up physical activity, as those located in green spaces near parks and beaches were well used in Israel. The setup of such outdoor gyms in healthcare spaces can therefore afford healthcare workers the opportunity to connect with nature whilst fulfilling the need to exercise. Grigoletto *et al.* (2021: 271) added that the availability of outdoor fitness equipment may increase physical activity and encourage healthcare workers to become more physically active, due to its easy and free access. Hospital leaders and wellness committees should therefore make a conscious effort to encourage healthcare workers to utilize such facilities. Healthcare organizations may therefore be innovative by introducing outdoor gyms on hospital grounds.

Researchers such as Jiang, Staloch and Kaljevic (2018: 41) described how a hospital in Kentucky, USA, had landscaped its hospital gardens to include walking trails and the installation of exercise equipment to promote the well-being of patients, staff and the community. These hospital grounds were also used to host fun runs. The use of outdoor fitness equipment transcends the physical benefits accrued as they are installed in green spaces. This concept therefore has holistic benefits and should be considered in earnest within hospital spaces in South Africa.

To maintain a healthy diet, live in a healthy environment, rest and sleep properly, healthcare workers need financial resources to cater for these basic physiological needs. Financial literacy is therefore discussed next.

5.3.1.2 Financial literacy

According to Mazlan (2024: 2), financial wellness is a comprehensive approach to managing finances that includes budgeting, saving, investing, debt management, and future planning. The term financial wellness is used interchangeably with financial literacy and financial well-being. The ability to satisfy one's present requirements, ongoing financial commitments, and sense of security, over one's financial future, which enables one to enjoy life to the fullest, are all components of financial well-being (Vieira, Bressan and Fraga 2021: 5). People may suffer financial insecurity if they lack financial wellness or well-being, which means they would not be able to pay for necessities like food, clothing and shelter which includes rent and mortgage payments, and transportation, as well as handle emergencies and family debt (Vieira, Bressan and Fraga 2021: 7; Mroz, Dunlap and Frogner 2024: 1).

Financial hardships experienced by healthcare professionals often leads them to sacrifice essential home items, such as nutritious food and medication so that they can use their funds to cover their electricity costs. This leads to food insecurity in the home, where children can be deprived of proper full meals (Mroz, Dunlap and Frogner 2024: 3). When healthcare workers are at risk of illness due to poor nutritional status and a weakened immune system, they will also struggle to satisfy higher order needs, such as psychological and social needs, as their basic physiological needs are not satisfied.

Wellness programs should therefore make provisions to include interventions that can guide financial wellness amongst healthcare workers. This can include modifying healthcare workers' financial behavior, evaluation and support of financial decisions and the financial security of employees (Malkowska, Tokarz-Kocik, Drela and Bera 2022: 6). Mazlan (2024: 5) for example discussed mindful consumption, which involves making intentional purchasing decisions, which considers personal finances, environmental sustainability, and social responsibility. Individuals are therefore encouraged to align their

consumption choices with their values and long-term goals, which can enhance financial resilience, reduce stress, provide peace of mind and enable them to pursue aspirations with confidence (Mazlan 2024: 5).

The literature reviewed revealed that salient interventions for promoting financial wellness, includes financial education, counseling, coaching, tax refund savings, investment opportunities, and savings accounts. Moreover, it is important for healthcare organizations to enlist financial experts, to help healthcare professionals in planning for their retirements and other insurance plans such as healthcare (Birkenmaier, Maynard, and Kim 2022: 49; Malkowska *et al.* 2022: 5). Such support mechanisms can be offered to healthcare professionals through in-person educational and coaching sessions or financial wellness workshops, or through technological platforms such as webinars, online courses, or gamified formats. Financial stability is associated with decreased absenteeism and enhanced productivity within the work environment (Malkowska *et al.* 2022: 5). To effectively navigate the difficult terrain of financial distress and develop financial wellness such support is crucial.

5.3.1.3 Resilience coaching

Resilience, is an inherent human capacity that enables people to flourish despite challenging circumstances (Sheikhrabori, Peyrovi and Khankeh 2022: 7). Several factors contribute to enhancing personal resilience. These include individual behaviors such as cultivating skills, adopting positive attitudes, engaging in health-promoting behaviors like optimized nutrition, regular exercise, and adequate sleep, and leveraging organizational support. Specific examples of organizational support, encompass access to affordable or free healthy food options, on-site exercise facilities, and opportunities for relaxation such as meditation or exercise during overnight, on-call, or extended shifts. Furthermore, character traits such as optimism, flexibility, adaptability, initiative, tolerance, and strong organizational skills are integral to resilience. The ability to function effectively within teams, maintain professional boundaries, communicate assertively, and possess a strong sense of self-worth all contribute to an individual's overall capacity for resilience (Sheikhrabori, Peyrovi and Khankeh 2022: 7).

Educating healthcare workers can also improve personal resilience within the work context (Sheikhrabari, Peyrovi and Khankeh 2022: 7). These authors also emphasized the value of interdisciplinary healthcare teams, within resilience training programs. These teams can serve as resilience coaches, contributing to the crucial planning, development, and implementation phases of targeted interventions. Moreover, resilience-building initiatives can extend beyond individual coaching by incorporating digital resources, such as mobile applications providing guided support and easily accessible online courses, which can offer a comprehensive strategy for promoting resilience (Sheikhrabari, Peyrovi, and Khankeh 2022: 7).

A study by Johnson, Simms-Ellis, Janes and Mills *et al.* (2020: 4), on a resilience training intervention, which was delivered through a 3.5-hour workshop in small groups, followed by a one-hour individual coaching call with experienced psychologists, yielded a positive response from participants (Johnson *et al.* 2020: 10). This suggests that structured training combined with personalized support, facilitated by qualified professionals, can be an effective approach to fostering resilience.

5.3.2 Psychological interventions

Mental health interventions that may be implemented by healthcare organizations and by individual healthcare workers to promote the psychological wellness of healthcare workers is discussed in the sub-sections that follow.

5.3.2.1 Counselling and psychotherapy

Healthcare organizations have the responsibility to ensure that healthcare workers have the necessary mental health support. There are a range of psychological support structures that may strengthen existing structures in healthcare organizations, be it formal or informal.

- **Formal psychological support**

Within healthcare organizations, the establishment of formal psychological support structures is paramount to ensuring the timely provision of psychological first aid to healthcare workers.

- **Employee assistance program interventions:** necessitate equitable access in terms of service accessibility, intervention efficacy, and healthcare provider acceptance and visibility (Richards, Eustace, O' Dwyer and Wormald *et al.* 2022: 17).
- **Expert support structures:** Comprise of clinical psychologists and psychiatrists, who provide mandatory specialized mental health care. While healthcare workers often favour informal support networks, complex psychological challenges may necessitate the intervention of qualified professionals, which exceed the capabilities of peers and leaders. The implementation of these formal structures is crucial to safeguarding the mental well-being of healthcare personnel (Richards *et al.* 2022: 18). A psychological support team should also include social workers who can provide social care to health care workers.
- **Awareness of support services:** Celmece and Menekay (2020: 6) advocated for the preparation and dissemination of information brochures, related to the availability and services of mental health intervention teams. This includes counselling and psychotherapy services that are available to healthcare professionals. An accessible approach to accessing these resources is crucial to ensuring that healthcare professionals can effectively identify and utilize the psychological support they require (Richards *et al.* 2022: 20).
- **Helplines:** Telephone helplines are a crucial form of psychosocial support for healthcare workers, a population who are often reluctant to seek traditional mental health services due to fear of stigmatization (Hinzmann, Forster, Koll-Krusmann and Schiebl *et al.* 2022: 2). In response to the need for such helplines, Germany implemented a telephone counselling structure staffed by healthcare professionals, who underwent specialized training in psychosocial support and

psycho-traumatology. The team is comprised of doctors, nurses, medical assistants, and rescue personnel with extensive experience in psychosocial emergency care. The service offered a confidential and anonymous avenue for seeking support (Hinzmann *et al.* 2022: 3) making this an intervention deserving of consideration in the South African health care context.

The effectiveness of this system was further enhanced by the fact that counsellors were from similar professional backgrounds, as the healthcare workers they supported, which fostered a deeper understanding of their experiences. The study highlighted the success of this model, particularly in reaching doctors who had previously avoided engaging in psychological services (Hinzmann *et al.* 2022: 7). Therefore, such a readily accessible and profession-specific support system, should be considered as a permanent resource, not just implemented during times of crisis.

- **Peer Support Networks:** Peer Support Network (PSN) programs include departmental peer supporters, a trained peer support team, and mental health experts who aim to identify colleagues at risk and offer the necessary support. This has been found to result in reduced emotional exhaustion. However, the success of such interventions depends on the active support and commitment from both the individuals and the organization (Cohen *et al.* 2023: 5). These networks provide a means to offer psychological first aid and emotional support (Carbone *et al.* 2022: 14). Psychosocial peer support initiatives for healthcare professionals are both viable and likely to have a significant effect as they can help to address burnout and promote a culture of caring for employees (Simms, Ottman, Griffith and Knight *et al.* 2023: 15).

Psychological services can be administered through a variety of modalities, to cater to diverse individual and group needs. These methods include traditional face-to-face sessions, alongside remote options such as psychological or psychiatric counselling via

telephone, video conferencing, and online platforms. Furthermore, individuals can access pre-prepared learning materials online, to supplement their therapy or for self-guided support (Richards *et al.* 2022: 2).

- **Informal psychological support**

- **Collegial support networks**

Healthcare workers should also be encouraged to build strong professional relationships with their colleagues. During the COVID-19 pandemic healthcare workers found the informal collegial support networks particularly valuable, in providing emotional guidance to each other (Billings, Ching, Gkofa and Greene *et al.* 2021: 13). Furthermore, the junior personnel expressed gratitude towards their senior counterparts for engaging in budding with them, as this facilitated contemplation of their experiences, thereby providing them with a sense of reassurance (Billings *et al.* 2021: 11). This therefore underscores the need for mentorship interventions.

Richards *et al.* (2022: 14) also found that the informal buddy system or peer support or collegial networks, were popular among healthcare workers, who at the end of a shift found themselves in “huddles” providing much-needed support to each other. Colleagues may provide psychological support by checking in on the well-being of each other, sharing their experiences and debriefing each other and sharing morale boosting and coping strategies (Diver, Buccheri and Ohri 2021: e60).

Managers, who are visible within organizations and can offer a listening ear and immediate support to healthcare workers, should be a mandatory resource that can be valued by healthcare workers. Compassionate leadership is a key aspect of effective healthcare leadership, which includes treating professionals with empathy, fostering open communication, providing opportunities for debriefing, providing strong support, leading by example, and creating conditions for efficient work and well-being (Ostergard, Kuha, and Kanste 2023: 60). It is crucial for healthcare organizations to incorporate these

attributes into their leadership development programs, to cultivate leaders capable of fostering a supportive and high-performing work environment (Ostergard *et al.* 2023). Like other interventions this training may be delivered in person in the workplace in groups and workshops, remotely via online platforms, in classroom sessions and through course material prepared in manuals and shared with healthcare leaders (Eskander, Rajaguru and Greenberg 2021: 61).

5.3.2.2 Positive Psychology interventions

Positive psychology interventions (PPIs) may be practiced by individuals in the privacy of their homes, to enhance their sense of subjective well-being (Seligman, Steen, Park and Peterson 2005, cited in Townsley, Li-Wang and Katta 2023: 5). The seven basic positive psychology interventions that can be adopted include savouring, gratitude, kindness, empathy, optimism, strengths and meaning.

Savouring involves directing one's focus and attention on positive events which will prolong those positive emotions. Gratitude interventions are based on concentrating on people and things that create positive feelings in a person's life. Kindness involves not only being kind to oneself, but practicing the act of kindness to others. Empathy interventions can strengthen connections that bring about happiness. Optimism interventions are grounded in thinking about the future with positive expectations. Strength interventions are based on the premise that all individuals have strengths, and one should explore and identify their own character strengths and use them in positive ways. Finally meaning-based interventions are based on recognizing one's meaning in life (Seligman, Steen, Park and Peterson 2005, cited in Townsley, Li-Wang and Katta 2023: 5). The workplace may also inculcate a culture of adopting such interventions, as they are cost effective, simple and do not require much preparation from the healthcare workers.

Sexton, Adar, Cui and Tawfik *et al.* (2022: 1) used web-based modalities to deliver positive psychology interventions to healthcare professionals. Ten text messages were sent to the participants, providing links to introductory videos and exercises related to

positive psychology. The positive psychology interventions were “cultivating awe, random acts of kindness cultivating relationships and gratitude letters. The participants were required to “reflect” on three positive experiences (three good things) that occurred in that day. To “cultivate awe”, the participant was offered the opportunity to learn about and experience the benefits of awe and wonder through a series of visually and conceptually stunning images, followed by a reflection exercise on one of their own experiences with awe.

Random acts of kindness provided an opportunity for them to learn, practice and reflect on the power of giving unsolicited kindness to others by documenting acts of kindness that are witnessed, committed and received. Building resilience in relations included, encouraging reflection on recent positive interactions and experiences and understanding positive patterns in relations. The gratitude exercise included demonstrating gratitude by writing a letter of gratitude (Sexton *et al.* 2022: 6).

- **Journaling, letters and expressive writing**

- **Gratitude journals and letters**

Gratitude journaling has become an increasingly popular intervention, aimed at cultivating a more positive cognitive outlook, by intentionally redirecting attention away from stressors and towards elements warranting appreciation (Cohen *et al.* 2023). This technique is often utilized to support well-being in high-stress professions. For example, healthcare workers may be encouraged to engage in daily gratitude journaling, documenting a minimum of three aspects, individuals, or experiences for which they are thankful for, at the beginning and end of each day (Roche, Mulchan, Ayr-Volta and Elias *et al.* 2023: 415). Diniz, Korkes, Tristao and Pelegrini *et al.* (2022: 3) offered a broader perspective, outlining diverse gratitude interventions which include, but are not limited to gratitude diaries, structured conversation programs focused on gratitude, formal training in gratitude expression, appreciative visits, the act of expressing gratitude verbally or in writing, creating and sharing visual content accompanied by expressions of gratitude, and contemplative exercises centering on thankfulness. These diverse approaches

underscore the multifaceted nature of gratitude and its potential for therapeutic application.

Komase, Watanabe, Hori and Nozawa *et al.* (2021: 3) explored the importance of gratitude interventions in workplace settings, noting that such programs typically ranged from one to several weeks in duration. Their research highlighted the utilization of both web-based and paper-based exercises, with some interventions employing a combination of the two methodologies (Komase *et al.* 2021: 3). Beyond these methods, Roche *et al.* (2023: 416) explored alternative approaches to cultivating gratitude among healthcare workers, saying that live Zoom video sessions could serve as a means of delivery. Video links may be sent to healthcare workers who were unable to access the live Zoom sessions. This diverse range of approaches suggests a flexible and adaptable approach to fostering gratitude in professional environments.

- **Reflective journaling**

Reflective journaling is a multifaceted process that draws on a person's cognitive, relational, emotional and behavioral aspects that endeavor to create self-expression self-awareness and bring about therapeutic change through same. Journals can therefore be used to create a deeper connection with one's emotions and use critical problem-solving skills to bring personal change. Journaling as a psychological tool is therefore a very personal psychological tool that fosters personal and professional development (Yadav 2022: 109; Rivera, de Rooij and Jones 2020: 148).

Wurtz, Willen and Mason (2022: 2) asserted that journaling is a critical tool that may be used as a therapeutic intervention, when other psychological resources are limited or unavailable. These researchers introduced journaling to the participants in their study via an online platform and concluded that the online journaling approach was a valuable psychological tool that could highlight mental health issues (Wurtz, Willen and Mason 2022: 1). (2022: 7) also found that participants enjoyed writing online reflective journals, although this cohort was made of participants who were younger. Training on the use of a reflective journal, may also be conducted in face-to-face sessions where healthcare

workers are given information on reflective thinking and how to document their experiences (Murillo-Llorente, Navarro-Martínez, Ibanez-del Valle and Perez-Bermejo 2021: 3).

- **Expressive writing**

Expressive writing can be described as a psychological tool that can help bring closure, following a traumatic experience or experiences. It is therefore hugely relevant post the COVID-19 pandemic. It is an easy exercise, where the individual is expected to take about 15-30 minutes to write down his or her thoughts and feelings about their traumatic experience (Procaccia, Segre, Tamanza and Manzoni 2021: 3; Gao 2022: 1). Whilst this intervention may be implemented at the workplace through face-face-meetings, healthcare workers may be given instructions that they could read at home, regarding expressive writing, the duration to take and the frequency of writing (Procaccia *et al.* 2021: 4). The simplicity of this type of activity makes it suitable to be implemented in an individual's personal life and with their family members.

- **Honouring and affirming healthcare workers**

General and supervisory appreciation significantly impacts presenteeism, both directly and indirectly (Bregenzer, Jimenez, and Milfelner 2022: 116). Appreciation enhances employee resources, which are essential to stress management, thereby leading to reduced presenteeism. It fosters engagement, decision-making autonomy, peer support, and team cohesion, enriching the resource base of employees and alleviating their stress, ultimately improving their well-being (Bregenzera, Jimenez, and Milfelner 2022: 116).

Stillman, Sullivan, Prasad and Sinsky *et al.* (2024: 333) found that healthcare professionals who feel recognized experience less burnout and are less likely to leave their jobs. They proposed six strategies to enhance appreciation among healthcare workers namely, ensuring safety from physical threats, providing financial assistance, fostering effective communication among leaders, promoting visible empathetic leadership, and establishing comprehensive organizational support, including access to

mental health resources, childcare, flexible hours, and job assignments aligned with workers' skills and preferences (Stillman *et al.* 2024: 333).

- **Pursuing personal goals**

Ehrlich (2023: 1910) examined the “Happiness through Goal-Setting Training”, a multifaceted intervention strategy designed to assist participants in contemplating and altering their motivations for pursuing goals.

The researcher determined that this intervention, characterized as a positive psychological intervention, could enhance the rationale for goal setting and positively influenced both life satisfaction, work engagement and productivity (Ehrlich 2023: 1921; Penno, Hetrick and Christie 2022: 777). Goal setting intervention training was found to be useful during sessions that were scheduled for 1.5 days in face-to-face workshops and online over a 6-week period whereby in both cases, the magnitude of changes was largely similar (Ehrlich 2023: 1921). A study by Linos, Ruffini and Wilcoxon (2019: 18) further found that people who received weekly confirmations by email from team leaders and supervisors reported a decrease in the levels of depression and a decrease in staff turnover.

- **Celebration of special occasions**

Celebrating special occasions can be likened to savouring, as individuals focus on the positive aspects in their lives and that of their loved ones. Brick, Wright, Bettman and Chartrand *et al.* (2023: 1) further, stated that celebrations which involved celebrating another year of life (birthday), brought about group cohesion that contributed to the overall well-being of society. Individuals derive pleasure from commemorating joyous occasions, including but not limited to birthdays, weddings, the arrival of a newborn, religious holidays and similar festivities.

King (2022, cited in Browne and Tie 2024: 12) shared that by celebrating the birthdays of nursing staff their well-being had improved and their absenteeism was reduced. Whilst there is limited scholarly work on the celebrations of birthdays at healthcare institutions, it can promote wellness. Healthcare workers can develop their own strategies within their respective departments regarding birthday calendars and decide on how they would

acknowledge and celebrate a birthday in their department, in a way that that does not infringe on patient care and their work contracts.

5.3.3 Social interventions

To maintain a work-life balance, it is important for healthcare workers to engage in social activities.

5.3.3.1 Leisure activities and hobbies

Healthcare professionals can engage in a variety of recreational activities and hobbies that can contribute to their well-being. Leisure activities, pursued typically during an individual's discretionary time outside of work or employment obligations, have been categorized in various ways (Fancourt, Aughterson, Finn and Walker *et al.* 2021: 3).

Initial classifications distinguished between "relaxed leisure," encompassing activities such as socialization, television viewing, and reading; "serious leisure," however involved pursuits like sports, games, and hobbies, which required sustained commitment and skill development; and "unclassified leisure," which is a more heterogeneous category, that included activities such as contemplative thought, rest, academic study, recreational sports, sewing, and shopping.

This early framework highlights the diverse range of activities that individuals can engage in during their free time and suggests differing levels of engagement and personal investment across these pursuits (Fancourt *et al.* 2021: 3). Leisure activities are normally self-directed, however wellness committees and leaders in healthcare institutions should take an active role in encouraging healthcare workers to engage in activities of interest to maintain a work life balance (Campbell-Nowlin 2024: 12).

- **Gaming**

Social gaming has been identified as an effective means of maintaining connections with friends, family, and colleagues, thereby mitigating feelings of loneliness and isolation.

- **Virtual gaming**

Furthermore, during the COVID-19 pandemic, individuals were afforded a sense of safety as these games could be played online, from the comfort of their homes. Additionally, virtual gaming that incorporated verbal interaction, has been shown to strengthen social ties among participants (Ballard and Spencer 2023: 261). Digital gaming as a social intervention involves individuals participating in shared activities hence, they get to spend time together, communicate and socialize (Goncalves, Pais, Gerling and Guerriero *et al.* 2023: 1). Gaming may be a self-directed intervention that healthcare workers engage in, during their free time, by organizing teams and competitions with their colleagues.

- **Board and card games**

Board games encompass a varied range of recreational activities, unified by the strategic manipulation of game pieces on a designated playing surface. These games typically involve the placement, movement, or removal of tokens on a board, operating under a defined set of rules and regulations that govern piece interaction within the board's pre-established pattern (Noda, Shiotsuki and Nakao 2019: 1).

Popular examples of such games include chess, checkers, Monopoly, scrabble, and snakes and ladders, which demonstrate the enduring appeal and diverse nature of this gaming format. While primarily structured for leisure and entertainment, board games can also serve as valuable educational tools (Damasevicius, Maskeliunas and Blazaukas 2023: 1). Despite their potential, research examining the use of board games among healthcare workers remains limited. Masoloko, Magdalena, Koen and Maserapelo *et al.* (2024: 5) however found that nurses in Botswana, who were working on the frontlines of the pandemic, had used card and board games as a coping strategy. Although this evidence is sparse, the potential benefits suggest that healthcare organizations could consider encouraging board game play amongst healthcare workers during breaks.

Whilst many interventions may fall under the social domain, some, however fall more strongly into the spiritual domain. These interventions will be presented in the sub-section that follows.

5.3.4 Spiritual interventions

Kieffer, Gonzales-Aragon, Chavez-Diaz and Aquino-Perales *et al.* (2024: 332) argued that individuals with heightened spiritual awareness exhibit positive emotions, spiritual beliefs, and resilience, which enables them to develop internal coping mechanisms. Spiritual wellness is therefore linked to a state of inner peace, which leads to lower levels of anxiety and promotes internal harmony (Kieffer *et al.* 2024: 332; Quchan, Mohammadzadeh, Tabrizi and Bahri 2024: 5).

5.3.4.1 Spiritual practices

- **Prayer**

Whilst the definition of prayer has evolved, it can be described as the communication that a worshipper or group of worshippers has with God, where people talk directly to God. Behaviors adopted during prayer is characteristic to certain groups e.g. people may perform prayer quietly, clasping their hands and shutting their eyes (Schille-Hudson and Luhrmann and Landy 2024: 1). Prayer may be formal or informal, scripted or free form and may include chanting for spiritual guidance (Reimer-Kirkham and Sharma 2024: 4). Schille-Hudson, Luhrmann, and Landy (2024: 15) discovered that prayer was used to help people comprehend challenges better, solve problems they are encountering, and get inspired to address them by coming up with plans, to manage conflicts that they are experiencing.

In this scenario people see God as a collaborator and tend to hand over problems, that they cannot manage to God thus seeking “His” direction to solve the problem. People feel a sense of relief after praying (Schille-Hudson, Luhrmann, and Landy 2024: 16). It was therefore not surprising that health care workers adopted prayer as a coping strategy during the COVID-19 pandemic (Almubark, Almaleh, BinDhim and Almedaini *et al.* 2020: 19), thereby entrenching prayer as an important spiritual wellness intervention.

Reimer-Kirkham and Sharma (2024: 6) reported on the spiritual care services that were available for nurses in hospitals in Vancouver and London. It was however evident that the spiritual resources provided, were not inclusive, as there was no prayer facility

available, at a hospital in Vancouver for Muslim nurses to pray. There was a chaplain of the Christian faith offering the spiritual care services to all healthcare workers and patients, yet there were healthcare workers and patients of different faiths (Reimer-Kirkham and Sharma 2024: 6). Nurses who participated in this study described praying in the chapel and in other peaceful areas. Muslim healthcare workers in London however had access to prayer rooms that suited their needs.

Faith leaders may be invited to team debriefings to listen in and offer spiritual counselling to healthcare workers. When designing and implementing spiritual care initiatives, healthcare organizations must be mindful and provide equal access to prayer spaces and religious leaders for the various faith groups. If a healthcare facility has a chapel, it should take steps to ensure that its staff has access to it and if it is locked, the key should be easily available to them. A hallowed spot for staff members to pray and contemplate in within the hospital's grounds should be identified. The need to start a prayer book where employees can write their prayers or share their prayer requests with others has also been suggested (Reimer-Kirkham and Sharma 2024: 9).

Moreover, healthcare organizations should make arrangements with faith leaders, who represent different faiths in the surrounding community to establish a multi-faith spiritual support committee or team (Saad and de Medeiros 2016: 3). To cultivate a robust and multifaceted spiritual support infrastructure, the active participation of internal stakeholders, specifically healthcare professionals employed within the hospital setting, is paramount. This collaborative engagement ensures a consultative and inclusive process, fostering a system that effectively addresses the diverse spiritual needs of staff and patients. Healthcare professionals, particularly those who serve as lay ministers or faith leaders, can be considered for membership within a multi-faith spiritual care team or committee. These healthcare workers, however, should be consulted regarding their preferences in terms of the composition of these committees, ensuring that the final structure is acceptable and accessible for their utilization. Once a formal spiritual support structure is established, within a healthcare institution, a formal rollout can be made to inform staff of the available services and resources. This will ensure their awareness of and can promote the utilization of the program.

- **Spiritual huddles**

Having a sense of meaning and purpose serves as a protective factor against stress and burnout among healthcare workers (Gama, Barbosa, and Viera 2014, cited in Celano, Harris, Sawyer and Hamilton 2022: 189). The implementation of "spiritual huddles" within the workplace presents a promising avenue for mitigating moral distress, while simultaneously fostering empathy and enhancing job satisfaction among employees. These huddles, defined as brief, recurring checkpoints that are designed to provide spiritual support, offer a structured approach to promoting holistic well-being (Celano *et al.* 2022: 190).

These recurring debriefings aim to engage clinical staff in discussions surrounding existing and emerging issues of concern, sharing problems and finding solutions for them. The concise conversations foster a shared 'situational awareness' regarding the complexities inherent in the healthcare environment for a given day (Schatz and Bergren 2022: 76; Lin, Chang, Wu and Chin *et al.* 2022: 2241). In the context of nursing practice, spiritual huddles have been leveraged by nurse leaders to disseminate educational resources, stimulate reflective discussions, and equip healthcare workers with tools such as notecards containing content related to meaning, purpose, and self-care (Celano *et al.* 2020: 190). The focused and facilitated nature of these huddles creates a supportive environment conducive to addressing the multifaceted challenges inherent in the work environment.

The formalization of spiritual huddles in a wellness program may include setting aside a specific time in the day to hold a 10–15-minute briefing with healthcare workers seated together in a circle. Each person is given an opportunity to share their experiences, feelings, thoughts and concerns (Holyoke and Stephenson 2017: 13). Spiritual huddles have proved particularly beneficial in providing spiritual care for veterans, leading to improvements in depression, psychological functioning, and self-compassion. This approach can be effectively used amongst healthcare workers, who frequently encounter high levels of trauma and who witness human suffering in their roles (Celano *et al.* 2022:

190). This technique to promote spiritual well-being may be implemented for all other categories of healthcare workers.

During the COVID-19 pandemic, several hospitals engaged in the use of spiritually oriented support measures for both patients and staff. This included the formation of spiritual support groups, the orchestration of prayer initiatives, and the dissemination of spiritually themed audio messages to individuals affected by the virus (Scheunemann, Kim, Moolla and Subramaney 2022: 6; Kieffer *et al.* 2024: 333). Given the documented benefits and potential for enhanced well-being, these spiritually supportive activities warrant sustained implementation, beyond the exigencies of the COVID-19 pandemic. Roman, Mthembu, and Hoosen (2020: 2) suggested that spiritually based activities can be offered through various digital mediums, such as email, telephone, video conferencing, and social media platforms. Some of these activities include:

- **Mindfulness**

Mindfulness is "a state of active awareness and attention directed at the present moment, including nonjudgmentally attending to one's current feelings and experiences" (Kabat-Zinn 2003, cited in Townsley, Li-Wang, and Katta 2023: 1). It allows an individual to manage unfavourable emotional incidents, thereby promoting emotional balance and well-being. Mindfulness-based education (MBE) has gained popularity for stress management, resiliency training, emotional intelligence, and self-awareness, particularly in healthcare settings including the prevention of burnout amongst healthcare professionals (Cohen *et al.* 2023: 4; Townsley, Li-Wang, and Katta 2023: 5; Salvado, Marques, Pires, and Silva 2021: 2).

Mindfulness training can be implemented in healthcare organizations through trained instructors, from 5 days to 8 weeks, with weekly sessions of 2 to 2.5 hours per session (Salvado *et al.* 2021: 11; Melnyk, Kelly, Stephens and Dhakal *et al.* 2020: 8). Mindfulness training can be offered through in-person classes, group instruction, smartphone apps, and web-based programs, with in-person sessions yielding positive results in reducing emotional exhaustion (Cohen *et al.* 2023: 5). Other mindfulness practices include speaking, listening, meditation, didactic exercises, yoga and mindful deep breathing

techniques. Training on mindful-breathing meditation (deep breathing techniques) were successfully introduced and implemented via WhatsApp group chats, video practice guidelines, tutorials and Zoom meetings. Moreover, healthcare professionals should be encouraged to practice mindfulness-based activities for at least ten minutes every day (Salvado *et al.* 2021: 11; Komariah, Ibrahim, Pahria and Rahayuwati *et al.* 2022: 8).

- **Meditation**

Meditation involves deep and purposeful thoughts based on eternal truths. The positive thoughts that flow from this experience results in positive emotions and creates positive memories. Positive thoughts, emotions, attitudes and memories assist the body to excrete endorphins and enkephalins which induce relaxation of the body (Kayalini 2024: 50). Fnu, Rajasekaran, Pilaniya, Aggarwal and Virmani *et al.* (2025: 2) wrote that meditation, is a multifaceted practice that encompasses a diverse range of approaches aimed at enhancing consciousness, fostering mental clarity, and promoting holistic psychosocial and physical well-being. Amongst its various techniques, mindfulness meditation, Transcendental Meditation (TM), loving-kindness meditation (LKM), and yoga are frequently implemented within healthcare settings (Fnu *et al.* 2025: 2). The practices of mindfulness and meditation, while often considered distinct, are fundamentally interconnected, sharing a synergistic relationship that contributes to overall well-being.

Meditation interventions can be incorporated within wellness programs of healthcare institutions, regardless of their differences in terms of duration and methodology. Fnu *et al.* (2025: 8) described mindfulness-based stress reduction (MBSR), as a psychoeducational methodology, which may be implemented over an eight-week timeframe, featuring bi-weekly sessions that last two and a half hours. Drawing on the work of Kabat-Zinn (1982, cited in Sercekman, 2024: 1), the Mindfulness-Based Stress Reduction (MBSR) program integrates mindfulness meditation, hatha yoga and body awareness exercises. This holistic approach is designed to facilitate the identification of stress triggers and maladaptive automatic responses to stress, ultimately assisting individuals in stress management and promoting overall well-being. The standardized eight-week MBSR program aims to foster a non-judgmental awareness of the present

moment and cultivate self-compassion. Consequently, participants are empowered to respond to stressors with enhanced clarity and resilience (Sercekman 2024: 1).

Participants who engaged in this training were instructed in a variety of meditation methodologies that they then practiced both in the classroom and as part of their everyday activities. Extended approaches however span from six weeks to twelve weeks (Fnu *et al.* 2025: 120). Another distinct meditation technique known as "Heartfulness Meditation," is structured as a twelve-week program.

Workplace meditation sessions may be undertaken collectively in groups or on an individual basis, depending on the specific type of meditation and the coaching methodology employed. The provision of meditation coaching or training can be facilitated through digital platforms, telecommunication channels, and mobile applications such as Synctuition. The duration of these exercises can range from five to fifteen minutes during daily sessions (Fnu *et al.* 2025: 12; Prado, Robinson and Chao 2023: 2), making it easy to implement in the workplace. Healthcare institutions may engage certified instructors to train healthcare professionals with regards to these various meditation techniques (Barrett, Harden, Brown and Coe *et al.* 2020: 805).

The interconnectedness of the mind, body, and spirit is increasingly recognized as crucial for overall well-being. Another practice that actively cultivates this connection is yoga, which will be explored in the following section.

- **Yoga**

Yoga is a spiritual discipline activity that encompasses physical, mental, and spiritual dimensions, that promotes the holistic development and harmony of an individual. It is regarded as a philosophy that integrates the mind, body, and spirit, enabling a creative exploration of movement akin to that found in dance, music, and painting. Empirical evidence suggests that yoga has positive effects on health, resilience, and well-being (Dutta, Aruchunan, Mukherjee and Metri *et al.* 2022: 115; Swarbrick and Middleton 2023: 5; Strout, Sapp, Parsons and Schwartz-Mette *et al.* 2025: 3). Yoga encompasses

practices such as deep breathing and breath control, mental focus (mindfulness), physical poses and movement (exercise, bending, stretching) and meditation. These activities are straightforward and effective in managing adverse reactions to stress and intense emotions (Dossett, Smith, Gingerich and Cullen 2022: 29).

Yoga interventions can range from brief sessions of five minutes to extended sessions lasting up to 3 hours, over a period spanning 1 to 15 weeks (Swarbrick and Middleton 2023: 6). Depending on the duration and nature of activities they can therefore easily be integrated within a healthcare organization's timetable. Additionally, yoga modules designed by experts in the discipline may enhance the training experience and can also be offered. Healthcare workers may also be sent a video link to participate in online yoga sessions. They may therefore be coached by expert instructors however, colleagues who practice yoga and see the benefits of yoga may also motivate their peers to adopt the practice and practice with them in groups (Swarbrick and Middleton 2023: 6).

Other innovative spiritual activities that may be included in holistic wellness programs include choral singing, music and dance.

5.3.4.2 Introducing arts in the workplace: choral singing, music and dance

The incorporation of innovative spiritual practices, such as choral singing, music, and dance, can contribute significantly to the efficacy of holistic wellness programs. These activities, often overlooked in traditional wellness approaches, foster a sense of community, emotional expression, and connection to something larger than oneself, thereby addressing the spiritual dimension of well-being.

- **Choral singing**

Singing is an important music based therapeutic approach that can contribute to wellness. It creates immense positive physical, psychological, spiritual, and social effects. It also serves as a fundamental element across all religious practices, regardless of whether individuals engage in solitary singing or through participation in group settings such as

religious assemblies or choirs (Wald-Fuhrmann, Boenneke, Vroegh, and Dannecker 2020: 1; Hajar 2021: 234; Ekici 2022: 3). Ekici (2022: 4), in fact wrote that Aristotle had characterized the voice as an ethereal sound emanating from the vicinity of the heart. Furthermore, the act of singing is purported to manifest an extraordinary potency that elevates individuals beyond their typical capabilities.

Rogers (2013, cited in Ekici 2022: 9) regarded singing as representative of the pinnacle of musical expression, serving as a direct manifestation of profound spiritual sentiments. One's voice constitutes the singular instrument that is inherently integrated within one's body and is intrinsically linked to the essence of the soul.

The profound inclination towards singing emanates from the subconscious impulses of the soul, which compels the articulation of melodic expressions. It is the spirit that imbues the human voice then with meaning, facilitated by cognitive processes, as one may articulate, "transfer my power to the voice so that I can comprehend it." Consequently, the vocal expression functions as the implicit language of the psyche, symbolizing an extraordinary pursuit. It is this spiritual aspect of vocalization that renders it advantageous for incorporation into a holistic wellness initiative (Ekici 2022: 9).

The formation of workplace choirs emerges through the initiatives of employees who have a fervent passion for singing and a desire to lead others in choral activities. This individual, who assumes the role of choir leader, champion, master, or mistress, plays a crucial part in identifying and recruiting interested colleagues through various communication channels, including online platforms like emails, internal networks, and traditional methods such as circulating flyers (Deely 2018: 8). He or she can therefore steer such initiatives within healthcare organizations. Institutional support, however, from management is essential, and encompasses the provision of rehearsal space and the facilitation of healthcare worker attendance at practice sessions.

Encouraging performances at staff retirements, corporate events, and other organizational functions provides valuable opportunities for the choir to showcase its talents. Furthermore, aligning performances with national health campaigns and

celebratory occasions, such as Christmas, can broaden the choir's appeal and allow more healthcare workers to experience its benefits (Deely 2018: 11). Choir performances may also be recorded and shared with other healthcare workers who may watch them at their own leisure. Practice may also be conducted virtually, and performances may be live streamed to reach a wider audience (Daffern, Balmer and Brereton 2021: 3).

- **Music**

Bist, Shuttleworth, Smith and Smith *et al.* (2024: 2) argued that music, regardless of its specific manifestation, enables the pursuit of meaning and purpose, which constitutes a fundamental aspect of human existence (spirituality). They believed that music serves as a conduit through which individuals navigate this pursuit. Consequently, participation in shared musical endeavors may function as an internal resource, facilitating a process of self-discovery and the realization of an authentic identity (Bist *et al.* 2024: 2). Music is therefore “a vehicle for the spiritual expression of people’s emotions set within their life experiences” (Bist *et al.* 2024: 12).

Music therapy may be implemented in wellness programs within healthcare organizations, but can easily be undertaken as a personal activity that healthcare workers can adopt as therapeutic healing strategy.

Employer-initiated music interventions often necessitate the involvement of trained professionals (Finnerty, Zhang, Tabuchi and Zhang, 2022: 1394). However, a more cost-effective approach can involve leveraging the expertise of internal staff, who are also musicians and can share their skills with colleagues. Where the organization has financial resources, external musicians can be engaged. Drawing on Deely's (2018: 8) suggestion of identifying a choir leader within the employee pool, a similar model can be applied when introducing music interventions. These interventions can include listening to music within wards and departments, the celebration of cultural and religious events featuring dramatic performances, and active participation in musical activities such as learning to play instruments like drums, songwriting, and chanting. While existing research predominantly focuses on nurses, the principles and benefits of these musical

interventions are generally applicable to all healthcare workers (Finnerty *et al.* 2022: 1394).

Healthcare organizations can be innovative in the implementation of such strategies. Music based interventions can be implemented independently or integrated with complementary activities, such as mindfulness and aromatherapy. Moreover, the duration and frequency of these interventions, can range from weekly 15-60-minute sessions over a four to twelve-week period, or may be implemented on an ongoing basis depending on personal times and the organization's available resources (Finnerty *et al.* 2022: 1392). Training and practice for healthcare workers involved in these various music based activities, may be conducted in person or remotely using digital platforms (Lange and Sun 2022: 2). Drawing inspiration from successful models like hospital choirs, healthcare workers may also form musical bands. Music bands may offer entertainment services within the hospital setting, participate in competitions, or even perform at functions organized by the Department of Health. Such musical performances can enrich the healthcare environment.

Managers may play an active role in motivating healthcare workers, to take responsibility for their well-being, by empowering them with regards to the value of music as a therapeutic wellness strategy and by encouraging them to listen to music and engage in other musical activities as a self-directed initiative.

- **Dance**

Dance Movement Therapy (DMT) leverages the intrinsic recreational and aesthetic qualities of dance, through targeted interventions that promote physical, psychosocial and spiritual growth (Dimonte, Gonella, Albanesi and Malinverni *et al.* 2023: 2). Gronek, Gronek, Karpinska and Dobrzynska *et al.* (2023: 1318) underscored the integral role of improvisation in dance, noting that some dancers frequently deviate from pre-established choreography, and instead embrace spontaneous movement. This act of improvisation demands attentiveness to the present moment and immediate performance activity. Importantly, improvisation offers a sense of liberation and is pervasive across diverse dance genres, spanning ethnic and folk traditions to hip-hop, modern, postmodern, and contemporary styles. Hence these dance interventions may be conducted in groups. Beyond its technical applications, improvisation contributes significantly to the spiritual

dimension of dance, representing a total surrender to musicality or internally driven impulses, evoked by music (Gronek *et al.* 2023: 1318).

Workplace wellness initiatives and programs can easily integrate a diverse range of dance genres, encompassing, but not limited to, ballroom, folk, and contemporary dance (Koch, Riege, Tisborn and Biondo *et al.* 2019: 2). These dance movement therapeutic sessions can be administered in various formats, including in-person one day workshops, with supplementary information disseminated through online platforms, as evidenced by Dimonte *et al.* (2023: 2). Furthermore, leveraging existing internal resources, such as employees with dance instruction or coaching skills, can be a cost-effective and a practical approach. As demonstrated in studies by Dimonte *et al.* (2023: 3) and Elakiya and Shankar (2021: 58), student nurses benefited from this strategy, suggesting its potential applicability to other trained healthcare workers, thereby capitalizing on previously successful implementation models. Elakiya and Shankar (2021: 58) documented the successful implementation of aerobic dance movement therapy with student nurses. Their four-week program consisted of 45-minute sessions delivered to groups of participants. The proven efficacy of these interventions within established wellness programs, lends credence to their potential for successful integration into the current program being designed.

Beyond the more readily recognized spiritual practices, engagement with gardens, gardening, and the broader realm of nature connectedness warrants significant consideration. These often-overlooked avenues for spiritual development will be explored in the following sections.

5.3.4.3 Gardens, gardening and nature connectedness

Workman (2013, cited in Ramos, Trinidad, Bickford and Bickford *et al.* 2019: 1) described the environment in which individuals inhabit, engage in professional activities, or partake in recreational pursuits as the foundational locus for the conception and implementation of health promotion initiatives. Gardening activities encompass a range of practices, broadly categorized as community gardening and individual or home gardening. The latter category includes both gardening on balconies and the cultivation of greenery within indoor spaces (Koay and Dillon, 2020: 14).

- **Community gardens**

A community garden is “any piece of land where plants are grown and maintained by a group of individuals from the community” (Public Health Law Center, 2017 cited, in Ramos *et al.* 2019: 2). They are designed to be places where neighbors can congregate, interact, and learn from one another and are often a result of neighborhood residents working together, to determine what is best for their community. It provides advantages not only to the horticulturists, but also to the wider community by furnishing sustenance (planting vegetables), of superior nutritional value, recreational possibilities, and physical engagement within localities. It also presents a means to re-establish a relationship with the natural environment, and aids in the restoration of ecological interrelations (Koay and Dillon 2020: 4).

The success of a community garden is dependent on community engagement, which ensures the support of the community and their participation. The sustainability of the project depends largely on community ownership. Planners may host workshops to teach gardening skills, host celebratory events to celebrate the commencement of the project and involve other family members in community garden projects (Ramos *et al.* 20219: 7). Wellness committees may therefore encourage healthcare workers to seek out such projects in their communities and become actively involved in them, as it will help them build their communities and society at large. Participation in the aforementioned activities is anticipated to foster a sense of purpose, which, in turn, may contribute to an individual's spiritual well-being and overall sense of upliftment.

Building upon these principles, hospitals can cultivate "community hospital gardens" as a wellness intervention. Wellness committees, in collaboration with interested staff can design gardens on the hospital grounds and in the vicinity of their organizations, for healthcare worker ownership. The cultivation of a sense of ownership within the diverse sectors of the hospital community is a critical factor in ensuring the long-term sustainability of these projects.

Successful garden initiatives require the early involvement of key stakeholders, including patients, families, and healthcare professionals, in the design process (Szabo, Dumitras, Doroftei and Sestras *et al.* 2023: 16). In the context of a healthcare worker-focused garden, wellness committees can actively engage staff in the design and ongoing maintenance of same, to ensure their active participation and enjoyment of the space. This targeted approach is expected to contribute to the long-term success, sustainability and impact of the "community hospital garden" as a wellness initiative.

- **Therapeutic hospital gardens**

Therapeutic hospital gardens (THGs) are increasingly recognized for their positive impact on healthcare workers' wellness, when effectively integrated into hospital health programs and policies (Nieberler-Walker, Desha, Bosman and Roiko *et al.* 2023: 260). These gardens are purposefully designed to support patient care, staff well-being, and visitor comfort. They are growing in popularity and often located in outdoor spaces like courtyards or rooftops. They are an important mechanism to enable well-being and can be easily accessible to staff during their breaks.

When designing a therapeutic hospital garden, hospital managers should consult with architects and landscape designers (Pimentel, de Lima and Latawiec 2024: 6). The purpose, objectives and activities of the garden, can be clearly stipulated.

To be used effectively the garden must be visible, accessible, familiar, tranquil and comfortable. Some activities that can occur in this therapeutic environment can include walking, sitting, resting, reading, herb and fruit picking. The gardens may be equipped with easy-to-move benches, chairs, or loungers. It may serve as a decorative spot, but more importantly as a resting place that can be used by healthcare workers. Bird feeders and nests can attract birdlife, whilst water features and flowers can serve as important elements of peace and tranquility. Therapeutic hospital gardens should also make provision for space to rest and read (Pimentel, de Lima and Latawiec 2024: 6). Spending time outside will allow healthcare workers to connect with nature, enjoy the visual beauty, the sound of the birds and spend time reflecting.

Gardens and gardening can therefore provide healthcare workers, with a sense of purpose and peace, allowing them to connect with nature, making these important spiritually based activities.

- **Nature connectedness**

Nature connectedness, often referred to as nature relatedness, encompasses the cognitive and emotional bonds that individuals forge with the natural world, which strengthens their understanding and identification with nature. This construct is manifested through an individual's perceived connection, with the surrounding natural environment. Empirical evidence suggests that fostering active engagement with nature can enhance an individual's sense of nature connectedness, yielding tangible physical and psychological benefits (Huang, Luo, Li and Lin *et al.* 2022: 2).

Middleton and Astell-Burt (2023: 4215) emphasized the critical role of healthcare organizations in fostering employee well-being, through an investment in and commitment to green spaces. Their argument extends beyond its mere provision, to that of enabling healthcare workers awareness, accessibility, and utilization of these spaces (Middleton and Astell-Burt, 2023: 4215). These authors underscore the contribution of elements such as trees, foliage, potted plants, and natural light in fostering a sense of connectedness with nature. To enhance this connection, Middleton and Astell-Burt (2023: 4215) proposed the integration of nature-based interventions (NBIs) within hospital environments. These interventions include establishing simple plant rooms, having plants at certain points in the work area, implementing green walls, cultivating vegetable and herb gardens, and encouraging healthcare workers to spend breaks outdoors and appreciate natural views from windows. This multifaceted approach aims to integrate nature into the workplace, thereby promoting the well-being of healthcare professionals.

Sterckx, Delbaere, De Blust and Spacova *et al.* (2024: 4) suggested that horticultural therapy was an important nature-based intervention (NBI) suitable for hospital settings. This therapy encompasses a range of activities, including soil preparation for harvesting, utilizing therapeutic walking gardens, vegetable gardening, and crop cultivation. Complementing this, Huang *et al.* (2022: 9) emphasized the importance of ongoing training for healthcare professionals to enhance their sensory awareness and connection

with nature, thereby maximizing the benefits of NBI. This collective evidence suggests that the implementation of nature-based interventions within hospitals presents a viable option, because of its cost-effectiveness, accessibility, and overall acceptability to patients and staff.

To ensure long-term effectiveness, healthcare organizations must prioritize the implementation of interventions that foster the holistic well-being of their workforce. These interventions must be carefully selected based on considerations of cost-effectiveness, accessibility, and acceptability within the specific healthcare setting, thereby promoting sustainability and maximizing positive impact.

5.4 Themes and sub-themes

The convergence of data from multiple sources, including an expert focus group (as detailed in Table 5.2), corroborating insights from healthcare practitioners (Table 5.1), and supporting scientific literature, revealed the emergence of four prominent overarching themes, each encompassing several distinct sub-themes. Following a collaborative process involving the researcher, an independent coder and the research supervisor, the final thematic structure was established. This is presented below in Table 5.3. (The thematic analysis of the data and the validation processes was discussed in chapter three).

Table 5.3: Wellness interventions: themes and sub-themes

Themes	Sub-themes
Theme 1	
Biological/physical interventions	1. Care of healthcare workers with long COVID-19 symptoms 2. Physical wellness 3. Physical activities 4. Financial literacy 5. Resilience coaching
Theme 2	
Psychological interventions	1. Psychological support services 2. Peer support networks (PSN) 3. Collegial support networks 4. Positive psychological interventions 5. Commitment to self-care 6. Laughter therapy 7. Setting life goals 8. Honouring and affirming staff
Theme 3	
Social interventions	1. Self-directed leisure activities and hobbies. 2. Well-being through socialization
Theme 4	
Spiritual interventions	1. Spiritual wellness amongst healthcare workers 2. Meditation 3. Yoga 4. Mindfulness 5. Gardens and connectedness with nature 6. Arts in the workplace

The overarching themes will be presented as domains and the sub-themes will be presented as categories in the holistic wellness program for healthcare workers.

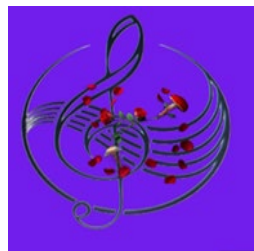
5.5 Dissemination of draft program

The initial draft of the program was emailed to the twelve wellness experts. They not only validated the data but provided further input into the program and suggested revisions where necessary. Most of them suggested that the interventions should not be repeated given the fact that many overlapped within the four wellness domains because of the nature of the interventions and their effects. For example, yoga, could easily fall within both the physical and the spiritual domain, but was included under the spiritual domain as it is regarded as a spiritually based activity.

Furthermore, participant, FG.9, suggested that *“when writing up the interventions for the psychological domain or themes, slot in the psychosocial support services first as that is most important and should be ongoing irrespective of whether there is a pandemic or not. This must be seen first as this is now a priority area for the employer.”* Participant FG.4, further commented that *“some interventions are one-word statements whilst others are action statements; maybe for standardization make all action statements.”* These suggestions were considered within the final program. The program's implementation, piloting, and evaluation were beyond the scope of the present research objectives, and therefore not undertaken.

5.6 Conclusion

Chapter five detailed the process that was used to design the development of the holistic wellness program. The program will be presented in Chapter six. Chapter seven focuses on the conclusions and recommendations of the study.



**“MUSIC IS THE DIVINE WAY TO TELL BEAUTIFUL, POETIC THINGS TO THE HEART”
(PABLO CASALS)**

CHAPTER 6

6.1 Introduction

Chapter five provided a detailed overview of the design of the wellness program. Particular attention was given to the three data sources that informed the design of the overall program and the specific interventions embedded within it. The newly emerging program within the current chapter, addresses the sixth objective of this study, as it integrates the recommendations that support the holistic wellness of healthcare workers. It does this by interweaving the biopsychosocial and spiritual facets and by presenting a set of holistic wellness interventions that addresses each of these facets.

The program can support and strengthen existing wellness initiatives and may also introduce new and innovative ones that can be integrated within the current healthcare system. The newly designed holistic wellness program follows.

A HOLISTIC WELLNESS

PROGRAM for HEALTHCARE WORKERS



"Our peace shall stand as firm as Rocky Mountains"

[William Shakespeare](#)

A HOLISTIC WELLES PROGRAM FOR HEALTHCARE WORKERS

1. Purpose

The purpose of the wellness program is to provide healthcare organizations with a range of holistic interventions that can be used to support and improve the wellness of healthcare professionals. These wellness interventions can be initiated and steered by wellness teams, who can co-ordinate the implementation of the various interventions and programs linked to same.

Whilst they may be implemented across all healthcare organizations, the strength of these interventions, is that they may also be easily adopted and used by individual healthcare workers to improve their overall well-being. The interventions identified within this program have been included under the four quadrants that collectively constitute the holistic biopsychosocial and spiritual model.

2. Problem identified

The COVID-19 pandemic impacted the physical, psychological, social, and spiritual wellness of healthcare workers in multiple ways, with many health care workers enduring long COVID-19 symptoms and post-traumatic stress disorder. The long-term consequences of this, have been a decline in physical and mental health which impacted family relationships, workplace functioning, and other social relationships. This led to the need to develop a set of recommendations to enable the wellness of healthcare workers post the COVID-19 pandemic. These recommendations converge into a holistic wellness program, which could enable the wellness of healthcare workers, and ultimately influence the wellness of their families, healthcare organizations, and society as a whole.

3. Aim of the Program

The aim of this wellness program is to elucidate an array of wellness interventions that healthcare organizations can implement to strengthen the wellness of healthcare workers, enable healing and strengthen their wellness post the COVID-19 pandemic.

4. Objectives

1. Objective 1

To empower healthcare workers with a set of wellness interventions, that can be used to enable healing and promote their physical, psychological, social, and spiritual health, so that they may achieve a state of optimal wellness.

2. Objective 2

To nurture more compassionate and caring healthcare leaders, who can create healthcare organizations that prioritize the wellness of healthcare workers and promote an organizational culture that supports the wellness of their employees.

5. Legislative Framework

- The Constitution of the Republic of South Africa 108 of 1996
- Occupational Health and Safety Act 85 of 1993
- Labour Relations Act 66 of 1995
- Basic Conditions of Employment Act 75 of 1997
- Skills Development Act 97 of 1998

6. Scope and Applicability of the wellness program

The holistic wellness program is applicable to all managers' and all categories of health care workers at healthcare facilities, within the Department of Health.

7. Stakeholders responsible for the implementation of the program

The implementation of the wellness program is a cyclical dynamic process that is owned not just by healthcare leaders, but also by the healthcare workers themselves. Hence the process of implementation involves joint commitment and dedication to integrate it within the architecture of healthcare organizations, so that healthcare workers and the organizations themselves benefit. Its adoption requires that managers across all tiers commit to nurturing a culture of wellness, by ensuring the time, space and resources for integrating these initiatives into the daily work and personal life of healthcare workers. It is therefore recommended that a multidisciplinary wellness committee be tasked with creating schedules of the various interventions, so that they can be easily implemented.

A dedicated budget is critical to engaging both external and internal stakeholders to implement the interventions.

A comprehensive itinerary of activities, in collaboration with the healthcare institution's executive management team, should be developed with consideration given to healthcare workers' schedules. This will enable them to interweave these interventions into the clinical structures of health organizations. At a departmental level, managers should motivate and encourage healthcare workers to take charge of their health and utilize the opportunities availed through the wellness program, by creating time to enable participation in same.

Where a physical reconstruction of hospital spaces, such as the gardens, needs to occur, then this should be given due consideration. There should be a process for evaluation of the interventions through exploring impact on their wellness, to understand which interventions are most popular and in so doing, to establish extent of use and efficacy. This co-ordination should rest with the multidisciplinary wellness committee.

8. Abbreviations

ABBREVIATION	MEANING
EAP	Employee assistant practitioner
MBE	Mindful based eating
MST	Microsoft Teams
NBI	Nature-based interventions
OHSA	Occupational Health and Safety Act
PSN	Peer support networks

9. Glossary of terms

Term	Definition
Meditation	Meditation is characterized by deep and focused contemplation on fundamental truths. It yields an array of positive effects that contributes to overall well-being. It is therefore recognized as a complex and multifaceted practice encompassing various techniques aimed at improving consciousness, promoting mental clarity, and fostering holistic psychosocial and physical health (Kayalini, 2024: 50; Fnu <i>et al.</i> 2025: 2)
Mindfulness	Mindfulness cultivates a state of active attention to the present, enabling individuals to develop improved coping mechanisms, which can navigate adverse emotional events, ultimately fostering greater emotional equilibrium (Townnsley, Li-Wang, & Katta, 2023: 1).
Wellness	Wellness is a state of optimal physical, psychological, social, emotional, and spiritual health, which is achieved through the adoption of healthy lifestyle choices that enhance overall well-being (Kauppi, Vanhala, Roos, and Torkki 2023: 14; Shreffler, Petrey, and Huecker 2020: 1064; Kaye-Kauderer <i>et al.</i> 2022: 418; Maffoni, Kalmpourtzidou, and Cena 2020: 7).
Wellness program	It is a compilation of activities that provide individuals with interventions that they can adopt and make healthier lifestyle choices, designed to encourage healthy living practices (Baveja, Counihan, Hayward, Lis, and Taneja 2019: 3).
Yoga	Yoga, a practice originating from ancient traditions, is recognized as a multifaceted discipline encompassing physical, mental, and spiritual dimensions. Its core tenet lies in the holistic development and harmonious integration of the individual. Beyond its physical manifestations, yoga is often regarded as a profound philosophy that seeks to unify the mind, body, and spirit, fostering a state of overall well-being (Dutta <i>et al.</i> 2022: 115; Swarbrick and Middleton 2023: 5; Str 2025: 3).

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12. OVERVIEW: HOLISTIC WELLNESS INTERVENTIONS

This holistic wellness program is predicated on the notion that the biopsychosocial and spiritual dimensions of well-being are intricately interconnected, which necessitates a multifaceted approach to enabling wellness. Accordingly, it integrates holistic interventions designed to address the biological/physical, psychological, social, and spiritual health of healthcare workers. The design of the program was informed by three crucial data sources, including the insights gathered from interviews with healthcare workers, a focus group discussion with key wellness experts and through a rigorous review of the literature related to evidence-based wellness interventions. The interventions themselves were recommended and supported by wellness experts and grounded in best practice wellness interventions within the scholarly literature.

The implementation of wellness programs that offer and support a range of wellness interventions is paramount to bolstering the health and well-being of healthcare workers, not only during acute crises such as the COVID-19 pandemic, but also as a sustained practice that is committed to the wellness of healthcare workers. The interventions embedded within this holistic wellness program are envisioned to nurture a workforce who is well and therefore able to navigate the complexities of work within under resourced and highly stressful healthcare contexts. The diversity of the interventions requires that various health, mental health, music, or spiritual leaders are engaged in the delivery of these interventions.

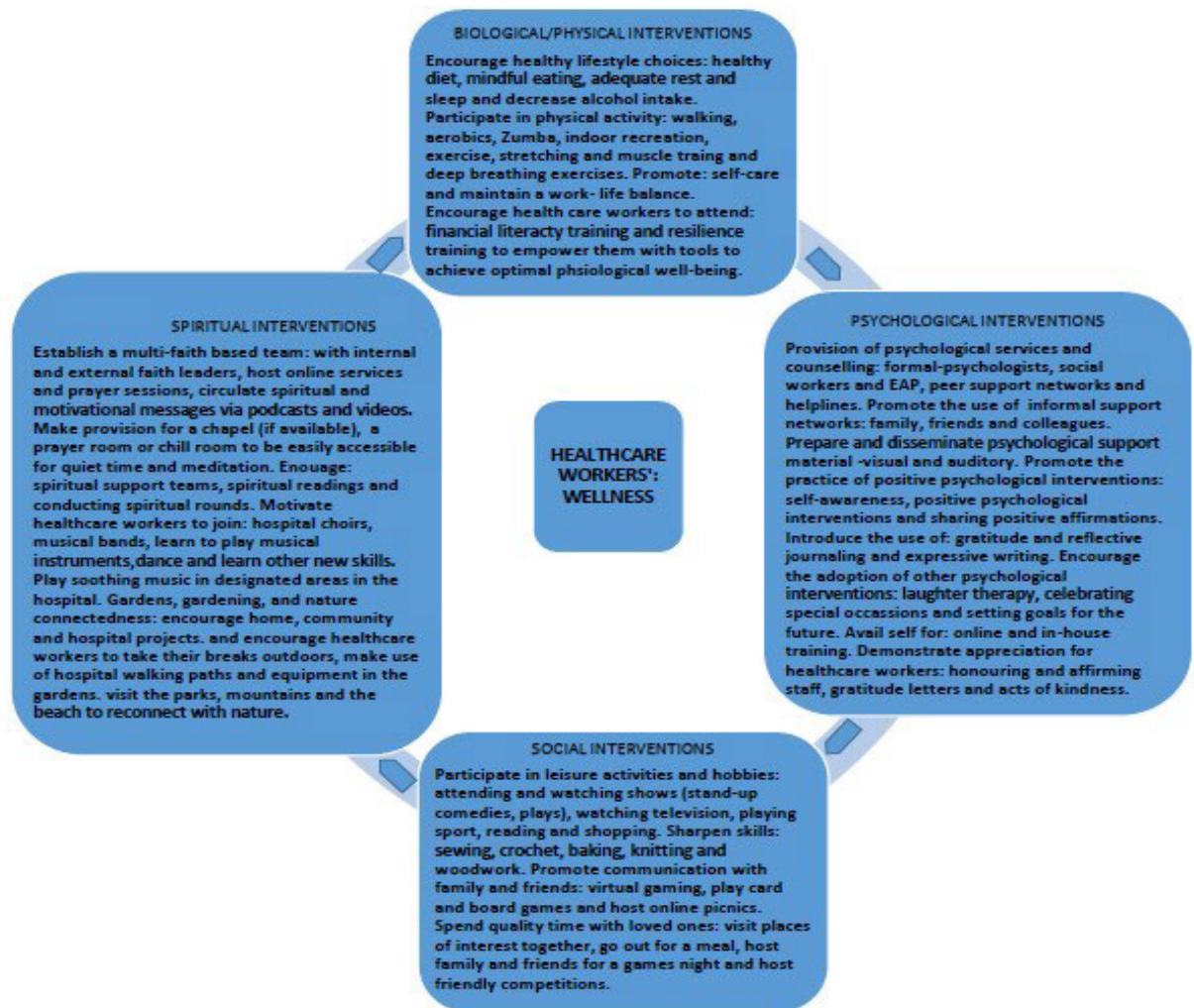


Figure 1: A holistic wellness program for healthcare workers

Figure 1: provides an illustration of some of the recommended wellness interventions which are interlinked to the four domains. Some of the interventions may overlap with those in other domains, due to their holistic effects.

Table 1: A holistic wellness program for healthcare workers

Category	Organizational preparation for the wellness program	Outcomes
Wellness committee	- Establish a multi-disciplinary wellness committee: - Committed to ensuring staff wellness through EAP practitioners, psychologists, social workers, occupational therapists, dietitians, physiotherapists, occupational health doctors and nurses, human resource representatives, trade union representatives and public relations officers. - Equitable accessibility: Plan wellness interventions by ensuring that time is allocated for interventions that are easily accessible to all.	- Wellness committees are to steer wellness initiatives and ensure that healthcare organizations and healthcare workers are committed to achieving optimal health. - Evaluate current wellness programs, activities, services, and policies. Strengthen areas with gaps. - Conduct an analysis of employee needs and preferences related to wellness. - Formulate: operational plans and action them with innovative wellness interventions. - Monitor and evaluate the effectiveness of wellness interventions. (Lazarevic and Nikolic 2021: 94).
Category	Biological/Physical interventions	Health outcomes
Ongoing care of healthcare workers with long COVID-19 symptoms	- Occupational health clinic: - Sensitize employees to the availability of services that can manage long COVID-19 symptoms. - Actively follow up on employees with long COVID-19 symptoms. - Implement occupational health wellness interventions, dedicated to providing services to care for staff with long COVID-19 symptoms. - Refer staff with complications to specialists and those with PTSD for psychological counselling.	The adoption of these interventions will: - Improve health, quality of life and coping with regards to long COVID-19 symptoms. - Appropriate placement of the employees in the workplace. - Decrease absenteeism and improve retention of employees. (OHS 85 of 1993: 39).
Promotion of physical wellness.	- Promotion of healthy eating practice: - Catering services in hospitals: Provide healthier dietary choices. - Wellness committee: Monitor provision of healthy meals. - Promote the intake of fresh fruit and vegetables. - Engage a dietician to guide healthcare workers, with regards to making healthy meal plans for the week, mindful grocery shopping, preparing foods with healthy ingredients and meals in advance. - Motivate healthcare workers to pack healthy lunch boxes for self and for family members. - Host regular nutrition workshops for healthcare workers. - Vending machines: - Involve stakeholders in the establishment of vending machines that offer water, healthy snack choices and beverages at key locations. - Prioritize the installation of vending machines at Emergency Medical and Rescue Service bases. - Rest breaks and areas: - Ensure that staff breaks are scheduled and that they have a comfortable area to be seated and enjoy their meals, away from patient areas.	The adoption of these interventions will: - Improve overall well-being. - Reduce the risk of chronic diseases. - Improve immunity against infectious diseases. (Maffoni, Kalmpourtzidou, and Cena 2020: 7; Cena and Calder 2020: 1). - Improve nutritional status. - Provide easier access to healthier foods. - Improve quality of life. - Improve feelings of being cared for amongst staff. (Wolska et al. 2022: 13; Panchbhaya, Baldwin, and Gibson 2021: 597).

Category	Biological/Physical interventions	Health outcomes
	• Mindful-based eating (MBE): ➢ Engage instructors to train healthcare workers on mindful based eating.	The adoption of these interventions will: • Maintain a healthy weight which leads to overall physical wellness. • Improved self-compassion. • Mindful eating enhances awareness of hunger and satiety, reduces emotional eating and overconsumption thereby promoting overall wellness. (Shaw and Cassidy 2022: 42; Arslan 2019: 906; Preissner, Oenema, and de Vries 2022: 9).
Physical activities	• Managers: network with gymnasiums to access discounts for healthcare workers and encourage physical activity. ➢ Encourage health care personnel: ❖ To join a gymnasium and stick to an exercise schedule. ❖ To form walking groups at the workplace and join external walking clubs with family and friends. ❖ To use hospital gyms wherever available e.g. in physiotherapy departments. ❖ To make use of the time allocated by the employer to engage in physical activities in the workplace e.g. aerobics, Zumba and strength training. ➢ Create and implement an exercise schedule that would include indoor recreational exercises that can still occur in poor weather conditions. ➢ Hospitals to plan for and host sports events on weekends for staff and their families.	The adoption of these interventions will: • Reduce stress, anxiety, depression and burnout. • Improve job satisfaction. • Facilitate weight management, enhance cardiovascular fitness, and improving muscle strength, tone, flexibility, mobility and balance. • Builds lean muscles thereby strengthening the immune system. (Smith and Merwin 2021: 2; Shiri, Nikunlaakso and Laitinen 2023: 9; Tucker, Fegers-Wustrow, Halle and Haykowsky <i>et al.</i> 2022: 1103).
Financial literacy to meet basic needs of living	• Promote financial literacy ➢ Engage experts to train healthcare workers on financial literacy, strategies that include budgeting, mindful spending, saving.	The adoption of these interventions will: • Promote financial resilience. • Align purchases with personal values and long-term goals. • Promote food security which leads to improved nutritional status. • Enhance sense of security due to having safe and comfortable shelter. • Reduce anxiety and absenteeism. • Improve productivity. (Malkowska <i>et al.</i> 2022: 6; Mazlan 2024: 5; Mroz, Dunlap and Frogner 2024: 3).
Resilience coaching	• Engage in-house trainers and external experts to provide resilience training. ➢ Develop a relevant training program for healthcare workers that is ongoing and not just at the time of emergencies. ➢ Develop targeted activities to be included in the program, prepare materials and develop online course material that healthcare workers may access during their free time. ➢ Train on topics that are related to: self-care to ensure that healthcare workers build resilience with regards to meeting their physiological needs.	The implementation and adoption of these interventions will: • Decrease levels of depersonalization, emotional exhaustion, traumatic stress, and burnout. • Improve confidence in working in demanding environments. • Promotes the feeling of belonging and that management cares about the healthcare workers.

Category	Biological/Physical interventions	Health outcomes
	➤ Promote resilience training in induction and orientation periods in the workplace. ➤ Train healthcare workers on other topics related to building resilience and developing positive behaviours and attitudes. This includes leadership for managers, policies, and demonstration of clinical skills and disaster management etc.	The implementation and adoption of these interventions will: • Enhance the access to support systems within the healthcare organization. (Eskander, Rajaguru, and Greenberg 2021: 62; Di Mario, Cocchiara, and La Torre 2023: 33).
Category	Psychological Interventions	Health outcomes
Psychological support services	• Provision of psychological counselling and psychotherapy: ➤ Encourage healthcare workers who are presenting with symptoms of post-traumatic stress disorder to seek psychological assistance for themselves and their family members. ➤ Create support groups for healthcare workers presenting with post-traumatic stress disorder. ➤ Develop visual (posters and pamphlets/brochures) and auditory material on the services that are available to assist healthcare workers understand and cope with post-traumatic stress disorder. ➤ Encourage healthcare workers to save contact details of psycho-social services on their phones. ➤ Display posters on internal and external resources available for psychological and mental health in all wards, units and departments. ➤ Continuous dissemination of information to healthcare workers regarding the availability of mental health services being provisioned within the hospital and through hotlines or helplines. ➤ Train different categories of healthcare workers e.g. doctors, nurses, paramedics, dieticians and physiotherapists as counsellors. ➤ Personnel providing these services are to distribute video recordings to ensure that healthcare workers do not perceive these individuals as unfamiliar.	The implementation of these interventions will: • Encourage timely and efficient access to psychological services. • Improve the psychological well-being of healthcare workers. • Prevent long-term psychological problems. • Improve productivity and retention. • Foster an environment that encourages the pursuit of psychological support and promotes the establishment of a standard practice for seeking such assistance when necessary. (Celmece and Menekay 2020: 6; Richards <i>et al.</i> 2022: 20; Hinzmann <i>et al.</i> 2022: 3). • Motivate healthcare workers to seek counselling from colleagues whom they are familiar with. • Improve access to psychological counselling that is acceptable and convenient from the privacy of one's own home, when using helplines.

Category	Psychological Interventions	Health outcomes
Peer support networks (PSN)	- Promote the use of peer support networks: - Establish, promote and implement structured PSN within the workplace. - Train peer support teams on the provision of immediate psychological first aid: incorporate mental health professionals. - Train all staff, particularly line managers, to enhance their ability to identify healthcare workers with psychological problems and assist them to identify and refer colleagues who may be experiencing mental health challenges. - Operational or line managers are to be supportive and sensitive to the needs of healthcare workers, provide them with opportunities for debriefing and refer them appropriately. - Encourage informal peer support networks at departmental level.	The implementation and adoption of these initiatives will: - Promote community building and self-care. - Reduce emotional exhaustion and burnout. - Reduce stress, anxiety, fear and mistrust. - Promote access to psychological support. The implementation and adoption of these initiatives will: - Facilitate immediate provision of psychological first aid. - Allow healthcare personnel to share their experiences. (Cohen <i>et al.</i> 2023: 5; Carbone <i>et al.</i> 2022: 14; Simms <i>et al.</i> 2023: 15)
Collegial support networks	- Encourage healthcare professionals to build and maintain strong professional relationships. - Motivate personnel to develop strong bonds with colleagues and form buddy systems - Encourage more senior and experienced professionals to buddy with junior colleagues in that way they may mentor them whilst providing psychological support. - Maintain open communication and share anxieties and fears. - Encourage formalizing "huddles" in the workplace by setting aside a specific time in the work day to have them. - During "huddles" seek the assistance and guidance of colleagues. - Develop a caring ethos of checking up on the well-being of each other.	The implementation and adoption of these initiatives will: - Afford an opportunity for debriefing with colleagues - Create an opportunity to share experiences, boost morale and enhance coping strategies. - Promote a sense of belonging and solidarity which leads to the adoption of healthier coping strategies. - Decrease in anxiety, fear and mistrust because of the immediate guidance received. - Provide an opportunity to immediately address challenges and problems and find solutions. (Diver, Buccheri and Ohri 2021: e60; Billings, Ching, Gkofa and Greene <i>et al.</i> 2021: 13; Lin <i>et al.</i> 2022: 2241)

Category	Psychological Interventions	Health outcomes
Positive mindset through positive psychological interventions.	- Promote the adoption and practice of positive affirmations: - Disseminate weekly positive affirmations to staff through electronic mail and other technological communication. This can be facilitated by the human resources department (Employee Assistance Program). - Encourage operational and line managers to share daily positive affirmations with their teams. - Capacitate healthcare personnel to engage in self-affirmation and share positive affirmations with their colleagues, family and friends. - Host special activities such as a "Kindness Challenge": encourage healthcare worker to engage in doing small thoughtful acts: leave a kind note or pick a flower in the garden and put it on a colleague's desk) to brighten their day. - Adopt practices rooted in positive psychology: - Train healthcare workers on the value and effective use of gratitude and reflective journaling as psychological tools. - Commence a gratitude journal: document three things that one is grateful for each day. - Commence a reflection journal: scribe one's deepest and most personal thoughts and events that occurred in the day. - Train and encourage healthcare workers to use expressive writing (poems, stories) to heal from traumatic experiences.	The implementation and adoption of these interventions will: - Reduce the risk of burnout and staff turnover and occupational stress. - Strengthen relationships and alleviate symptoms of anxiety and depression. (Sexton <i>et al.</i> 2022: 6). - Promote a culture of caring and belonging. - Enhance team building. Gratitude journaling: improves mental health, particularly in reducing depression and anxiety. Reflective journaling: reduces incidence of burnout, improves emotional processing, lowers stress levels, and alleviates emotional exhaustion and allows for more productive management of anger. - Encourage self-reflection and the prevention of repeating the same mistake. - Enhance personal and professional growth. Expressive writing: - Promote a deeper connection with one's emotions and use critical problem-solving skills to bring personal change. - Sharpen skills to cope with traumatic events in a constructive manner and heal from these experiences. (Gao 2022: 1; Langan and Keppen 2022: 17; Anger, Dimoff and Alley 2024: S219; Yadav 2022: 109; Rivera, de Rooij and Jones 2020: 148; Procaccia <i>et al.</i> 2021: 1; Roche <i>et al.</i> 2023: 421).

Category	Psychological Interventions	Health outcomes
	• Celebrate special occasions and events: ➤ Celebrate birthdays, academic achievements, marriages and personal birthdays, those of, family, friends and colleagues. ➤ Celebrate accomplishments, even small wins, like adhering to an exercise regime, with personal rewards.	The implementation and adoption of these interventions will: • Enhance happiness, joy, and expectation. • Encourage a sense of empowerment, belonging and self-efficacy, improve well-being and reduce absenteeism • Serve as opportunities for individuals, families, and friends to come together in celebration, thereby enhancing group cohesion and bonding. (Brick <i>et al.</i> 2023: 1; Redlich 2023: 791).
Commitment to self-care	• Promotion of overall wellness through self-care: ➤ Encourage healthcare workers to understand that they are also human and hence they need to be compassionate to themselves and others. Acknowledge that there will be times when they are not okay and should seek professional help. ➤ Cultivate a deliberate practice aimed at enhancing self-awareness. ➤ Enhance personal empowerment by participating in training activities provided by the hospital and other places of employment and keep abreast of new information on self-care activities. ➤ Establish specific personal goals aimed at improving overall health e.g. maintain an exercise regime. ➤ Maintain a personal journal to document progress towards enhancing self-care. ➤ Cultivate personal motivation and discipline to embrace a healthier lifestyle, which includes a nutritious diet, mindful eating practices, sufficient rest and sleep, reduced alcohol consumption, engaging in indoor recreational activities, prioritizing self-care and achieving a balanced work-life dynamic ➤ Healthcare institutions may train healthcare workers on sleep hygiene practices	The adoption of self-care interventions will: • Promote resilience, happiness, optimism, wisdom, curiosity, courage, exploration, and emotional intelligence. • Encourage healthy lifestyle choices: making healthy choices regarding food. • Promote rest and sleep which is essential for maintaining optimal physical and mental health during crises such as pandemics, other disasters and even outside of crises periods. • Adopt healthy sleep hygiene practices. (Callus, Bassola, Fiolo and Bertoldo <i>et al.</i> 2020: 7; Khatatbeh, Alhalaiqa, Khasawneh and Al-Tammemi <i>et al.</i> 2020: 7).

Category	Psychological Interventions	Health outcomes
Laughter therapy	• Incorporate laughter therapy into daily routine: ➢ Through viewing comedy films to encourage laughter. ➢ Sharing humorous anecdotes with family, friends and colleagues enhances the shared joyful experience. ➢ Wellness committee: ❖ Explore literature centered on the value and how to practice this intervention, share the literature and links for the information with healthcare workers. ❖ Engage a laughter therapist to guide healthcare personnel on the use of laughter therapy. ❖ Motivate healthcare workers to watch instructional videos that focus on laughter therapy techniques and adopt these practices for self and family.	The adoption of these interventions will: • Provide an outlet for negative emotions and enhances coping mechanisms for psychological distress. • Reduce stress, tension, anxiety, hatred and anger. • Improve interpersonal relationships and insomnia. • Stimulate feelings of joy and happiness. • Physical health: reduces chronic pain and bolsters the immune system. (Mbiriri 2020: 1; Uner, Balci and Kadioglu 2022: 251).
Setting life goals	• Promote goal setting initiatives ➢ Engage professionals, i.e. in-house and external stakeholders (psychologists, industrial psychologists, social workers) to train health care workers on goal setting initiatives. ➢ Operational and line managers are to motivate healthcare workers to set goals and work towards achieving them. ➢ Train healthcare workers to cultivate a positive perspective on life, establish objectives, and strategize for the future in collaboration with family (family vacations, weight loss targets, and work towards academic qualifications).	The adoption of these interventions will: • Improve life satisfaction, work engagement and productivity. • Promote a renewed sense of hope which will contribute to building individual resilience and enhance one's perspective on the future. (Ehrlich 2023: 1022; Penno, Hetrick and Christie 2023: 777).
Honouring and affirming staff	• Promote the appreciation of healthcare professionals: ➢ Engage stakeholders to capacitate leaders to be proactive, visionary and visible, maintain open communication and lead with compassion. ➢ Operational managers: acknowledge the valuable contribution of healthcare workers, show gratitude and give praise immediately. ➢ Foster a culture of appreciation by acknowledging the contributions of staff through personalized communications, certificates, and gratitude letters and awards ceremonies. ➢ At the operational level, acknowledge and motivate employees on a quarterly basis for their punctuality, complete attendance, helpfulness and commitment and for special service acts that recognize those who go beyond the call of duty.	The implementation of these interventions will: • Promote a sense of belonging, appreciation and recognition. • Motivate healthcare professionals to work towards achieving the organization's goals. • Reduce presenteeism, anxiety, stress and burnout. • Improve engagement, decision-making autonomy, support from peers, team cohesion and staff retention. (Bregenzera, Jimenez, and Milfeller 2022: 116 Stillman <i>et al.</i> 2024: 333).

Category	Psychological Interventions	Health outcomes
	• Promotion of an annual remembrance and memorial day: ➢ Host an annual event to honour those healthcare workers who lost their lives during the pandemic. ➢ Acknowledge those who served with honour and saved many lives during the pandemic, this may be a verbal recording (podcast) or video recording sent to healthcare workers.	• Enhance feelings of belonging and being cared for.
Category	Social Interventions	Health outcomes
Promote social wellness through self-directed leisure activities and hobbies.	• Encourage and motivate healthcare workers to enjoy their leisure time and hobbies. ➢ Host a workshop to sensitize staff on maintaining a work life balance by participating in leisure activities and hobbies. ➢ Encourage healthcare workers to join groups who have the same interests as them: knitting, crochet, golf and book clubs etc. ➢ Share web-based links and leisure group details with healthcare professionals wherever available. ➢ Plan for leisure activities and schedule appointments with friends and family. ➢ Encourage healthcare workers and their families to renew their interests and adopt new hobbies: reading, enjoying music, knitting, sewing, crochet work, embroidery, puzzle making, playing chess, playing a musical instrument and cooking and baking etc. ➢ Adopt and take care of a pet e.g. dog.	The adoption of these interventions will: • Promote an effective work life balance. • Decrease stress, anxiety and depression levels. • Promote a sense of purpose and deeper connection with self, family and friends. • Foster a sense of achievement as knowledge increases and new skills are learnt. • Improve work performance due to mental well-being. • Decrease in loneliness (ownership of a dog). (Campbell-Nowlin 2024: 93; Ogata, Weng and Messam 2023: 13).
Promote well-being through socialization	• Improve social connectedness and team spirit: ➢ Create opportunities for social clubs which will enable employees to engage in board games such as chess and card games during their lunch breaks. Organize inter-departmental competitions. ➢ Participate in online gaming, organize game nights with friends and colleagues. ➢ Maintain contact with family and friends: face-face visits, telephone conversations, emails, WhatsApp chats, video calls and telephone calls. ➢ Participate in online picnics, especially during periods of incremental weather	The adoption of these interventions will: • Improve team spirit. • Create the opportunity to set team goals. • Strengthening social ties among participants, communication and socialization. • Encourage the establishment of supportive networks. • Mitigate feelings of loneliness and isolation. • Promote family bonding. • Reduce burnout, boredom, stress and anxiety. • Promote feelings of accomplishment. (Masoloko <i>et al.</i> 2024: 5; Ballard and Spencer 2023: 261, Goncalves <i>et al.</i> 2023: 19).

Category	Spiritual interventions	Health outcomes
Promote spiritual wellness amongst healthcare personnel.	- Establish a team comprising both internal and external faith leaders representative of diverse faiths and formalize their roles through service level agreements. - Aim to provide cultural and faith sensitive spiritual counseling to healthcare professionals and patients as necessary. - Coordinate the communication of weekly spiritual messages written and audio to healthcare workers, whilst being mindful of the diverse workforce, through emails via the EAP practitioner. - Provide a prayer room for staff, hospitals that have a chapel ensure that it is accessible to staff. - Provide a prayer book (chapel), those needing prayer may leave a message or prayer request for faith leaders and colleagues to pray for them. - Form a prayer group in the workplace with people who have similar interests and beliefs. - Reinforce the culture of spirituality in the workplace: - Host online services for healthcare workers. - Record services so that healthcare workers can access same during their free time. - Encourage healthcare workers to have small "spiritual huddles" with their colleagues when they are feeling stressed and overwhelmed. - Host communal prayer days for healthcare workers: choose appropriate themes. - Provide a tranquil space: - This will allow staff members time for a brief respite for prayer/meditation or moments of solitude. - Create a library with books related to spirituality and health. - Create a tranquil space in the library, dedicated to providing material related to spirituality. - The books should be representative of diverse faiths and other spiritual practices. - Encourage contributions for this library from internal and external sources.	Spiritual interventions yield significant holistic benefits. The adoption of these interventions will: - Heighten spiritual awareness: promote positive emotions, spiritual beliefs, and resilience. - Enhance internal coping mechanisms. - Improve emotional exhaustion and depersonalization. - Improve psychological functioning and, establish a safeguard against anxiety, stress and burnout, alleviates moral distress while enhancing empathy and job satisfaction. (Kieffer <i>et al.</i> 2024: 332; Quchan <i>et al.</i> 2024: 5). - Reduce fear, worry, and sadness, alongside a decrease in feelings of social isolation. - Enhance self-compassion which is highly effective for healthcare workers, who frequently encounter high levels of trauma and witness human suffering. - Promote healing after the death of a loved one. - Allow healthcare workers the opportunity to relax, calm down - Reduce stress and burnout. - Calm the mind. - Promote spiritual well-being in the workplace. - Provide an opportunity to expand one's spiritual knowledge and well-being. (Saad and de Medeiros 2016: 3; Reimer-Kirkham and Shama 2024: 6; Celano <i>et al.</i> 2022: 190; Quchan <i>et al.</i> 2024: 5; Scheunemann <i>et al.</i> 2022: 6; Kieffer <i>et al.</i> 2024: 333; Lazzarino and Papadopoulos 2023: 8).

Category	Spiritual interventions	Health outcomes
	- Establish a formal framework: To organize discussion groups featuring presentations on life's purpose and self-care, include spiritual rounds conducted by mental health professionals and chaplains and other faith leaders. - Encourage healthcare professionals on self-directed spiritual care of self and family: - To strengthen their spiritual lives with their family members. - Visit places of worship. - To participate in individual and family prayers, read religious texts, attended online services and convenient congregational services at their places of worship. - Engage in spiritual activities in the home environment like scripture reading, listening to spiritual music, writing, and taking walks. Wearing a trinket or bracelet, lighting candles or incense, and displaying photographs of deceased family members. - Stay connected with and strengthen relationships with spiritual leaders and groups for spiritual support. - Participate in religious gatherings, festivities and rituals. - Form a prayer group with family and friends.	Spiritual interventions yield significant holistic benefits. The adoption of these interventions will: - Promote a sense of hope, resilience, peace and protection. - Promote spiritual grounding. - Enhance a sense of purpose in life.
Meditation	- Promote the adoption of meditation interventions. - Engage external and internal trainers to train healthcare professionals. - Offer meditation exercises to staff members who express interest in meditation as a technique for enhancing psychological and spiritual well-being. - Encourage healthcare workers to access private meditation courses and actively engage in classes for their mental well-being. - Offer guided meditation sessions via online recordings and live meditation sessions - Share links for online meditation classes with healthcare professionals.	The adoption of these interventions will: - Improve attention span and mental well-being, assist in regulating emotions, slow the cellular ageing process and help cope with burnout among healthcare workers. - Reduce stress and stress related chronic pain. - Promote a profound connection with self and others. - Enhance compassion for self and others and resilience. (Kayalini 2024: 50; Eskander, Rajaguru, and Greenberg 2021: 63).
Yoga	- Yoga interventions. - Engage yoga instructors to offer classes to healthcare workers. - Schedule regular yoga sessions, with a focus on restorative yoga. - Encourage and motivate healthcare professionals to access free online yoga lessons and engage in these activities. - Promote quick and short yoga breaks during shifts.	The adoption of these interventions will: - Reduce burnout, depression, anxiety, stress, emotional exhaustion, depersonalization, and chronic pain. - Contribute to enhanced resilience and compassion as well as improved work ability. - Physical benefits: strengthen, stretch muscles and promotes relaxation. (Cohen <i>et al.</i> 2023: 12; Zhang <i>et al.</i> 2021: 9; Di Mario, Cocchiara, and La Torre, 2023: 33 Shiri, Nikunlaakso, and Laitinen 2023: 4)

Category	Spiritual interventions	Health outcomes
Mindfulness	- Promote the adoption of mindfulness interventions. - Engage experts to train healthcare workers on utilizing mindfulness interventions (mindful spending, mindful decision making etc.) - Educate personnel on the implementation of mindfulness techniques as a strategy to improve psychological wellness. - Encourage healthcare workers to attend training on mindfulness. - Motivate healthcare workers to independently access online training programs on mindfulness and apply these practices in their everyday lives (practices can include mindful speaking, listening, meditation, didactic exercises, and yoga). - Incorporate Mindfulness-Based Stress Reduction (MBSR) interventions. - Introduce MBSR interventions in workshops for all levels and categories of healthcare workers. - Integrate meditation, body awareness and yoga into the workshop. - Introduce short, practical workshops on mindful breathing techniques to be integrated into daily routines. - Encourage short, daily mindfulness moments during shifts, where staff can pause for a few minutes to engage in meditation or mindful breathing.	The adoption of these interventions will: - Reduce depression, assist in managing anxiety, stress, emotional exhaustion, and burnout while promoting a sense of inner calm. - Cultivate a positive mindset, enhance resilience and emotional intelligence, especially for those working in healthcare settings. - Improve cognitive functions and mental flexibility by reducing cognitive load. (Cohen <i>et al.</i> 2022: 12; Townsley, Li-Wang, and Katta 2023: 5; Melnyk <i>et al.</i> 2020: 7; Di Mario, Cocchiara, and La Torre 2023: 33; Salvado <i>et al.</i> 2021: 9). - Target psychological well-being by reducing anxiety, depression, stress and burnout. - Build resilience and self-compassion and enhance coping mechanisms. (Kriakous, Elliott, Lamers and Owen 2021: 1; Sercekman 2024: 8). - Reduce depression, anxiety, and stress. (Komariah <i>et al.</i> 2022: 8).
Gardens and connectedness with nature	- Promote wellness through gardens and connectedness with nature. - Commence greening projects in hospitals and encourage healthcare workers to lead and participate in them. - Develop therapeutic hospital gardens with safe walking paths, outdoor gym equipment and bird baths to attract birds. - Invite horticulturists to provide education to healthcare workers on sustaining healthy and productive gardens. - Encourage greening health care spaces, around the hospital departments with pot plants and green gardening spaces, to encourage staff to take an active role in greening activities. Hence gardening projects can emerge as a cohesive unit. - Motivate healthcare workers to engage in gardening activities with their family members in their homes and with their communities in community garden projects.	The adoption of these interventions will: - Encourage eco-greening projects. - Reduce stress, burnout, depression and anxiety. - Improve social connectedness, group belonging and peer support. - Promote cognitive functioning, self-esteem, and overall well-being.

Category	Spiritual interventions	Health outcomes
Gardens and connectedness with nature	- Outdoor rest and leisure areas ➤ Train healthcare workers on how to enjoy and appreciate nature through sensory stimulation. ➤ Cultivate an appreciation for nature in healthcare workers by encouraging them to take their breaks away from their departments: to go out into the gardens and enjoy nature, allowing them the opportunity to de-stress in a natural setting and socialize with other staff. ➤ Designate shaded seating areas within the hospital and garden for staff members to relax (Prioritize ambulance bases). ➤ Encourage healthcare workers to visit parks, the mountains, the beach and other such areas in their off-duty time with family and friends to relax and enjoy the scenery.	The adoption of these interventions will: - Promote relaxation, the opportunity to recover, and escape the stress of their work environment, which enhances job satisfaction and supports recruitment and retention efforts. - Provide the opportunity to connect with nature, reduce fatigue, improve work ability, and help workers achieve a better work-life balance and improve staff relations and social connectedness. (Huang <i>et al.</i> 2022: 9; Middleton & Astell-Burt, 2023: 4214).
Introduce arts in the workplace	- Promote the adoption of choral singing, music and dance. Choral singing: ➤ Identify staff who have an interest in leading choirs and co-opt them as choir leaders. ➤ Create inter-departmental choirs and host competitions in the hospital. ➤ Encourage staff to join these choirs and make provision for them to attend practice sessions as permitted by the employer. - Encourage healthcare workers to also take up singing as a self-directed leisure activity. Music: ➤ Encourage music groups, which create opportunities to learn to play different musical instruments and songwriting. ➤ Establish a system to play soothing music in designated areas in the hospital, e.g. staff rest areas. Encourage healthcare workers to listen to music during their leisure time and apply it as a coping strategy in their everyday lives	The implementation and adoption of these interventions will: - Foster social unity, cultivate a sense of camaraderie and belonging among individuals. - Reduce levels of stress and anxiety. - Provide an opportunity for catharsis. - Help individuals cope with emotional distress and navigate through grief associated with losing a loved one. - Improve group relationships and social connectedness. - Promote a feeling of accomplishment and fulfilment. - Enhance self-esteem. (Hajar 2021: 234; Daffern, Balmer and Brereton 2021: 8). - Reduce the risk of burnout and occupational stress. - Enhance work engagement and self-awareness. - Promotes relaxation - Improves mood by reducing anxiety. - Alleviates loneliness, depression and anxiety (Finnerty <i>et al.</i> 2022: 1393; Choi and Choo 2023: 5). Hajar 2021: 234; Daffern, Balmer and Brereton 2021: 8).

Category	Spiritual interventions	Health outcomes
	Co-opt internal and external stakeholders who are skilled in playing musical instruments to teach those interested in learning. ➤ Share links with healthcare workers to join self-directed online music lessons. Dance: ➤ Engage internal and external stakeholders to coach staff with regards to the different dance genres. ➤ Encourage healthcare workers to join dance sessions. ➤ Encourage healthcare workers to showcase their skills during special days like cultural and heritage days. ➤ Host competitions for staff. ➤ Motivate healthcare workers to join dance classes or online classes.	• Enhanced interpersonal skills, self-efficacy, Motivation and health related quality of life • Promotion of personal and professional identity development. • Reduces anxiety and depression. (Fong Yan, Nicholson, Ward and Hiller <i>et al.</i> 2024: 1202).

6.2 Conclusion

The comprehensive wellness program offers a diverse range of holistic interventions that healthcare organizations can implement and support through dedicated training. This training aims to foster, enhance, and maintain well-being among healthcare workers. Recognizing that many of these interventions are designed for self-administration, healthcare workers are encouraged to embrace and integrate them into their personal lives and share them with their families, thereby promoting a culture of holistic wellness.

CHAPTER 7

“The sole meaning of life is to serve humanity” (Leo Tolstoy)

7. CONCLUSION AND RECOMMENDATIONS

7.1 Introduction

Chapter six presented the holistic wellness program which was informed by insights gleaned from interviews with healthcare workers; secondly recommended interventions contributed by a group of subject matter experts; and thirdly, a comprehensive review of existing literature.

Chapter seven, will present a summary of the main findings, in relation to the objectives of the study, the conclusions drawn and the recommendations emerging from the study. The conclusions are discussed within the context of the objectives of the study. It will also address the limitations of the study.

7.2 Overview of the study

This study sought to explore the physical and psychosocial challenges, confronting healthcare practioners, who worked at the forefront of the COVID-19 pandemic. The intent was to develop a program that would enhance the wellness of these workers. Its design, however, was such that other healthcare workers would benefit from it as well. COVID-19 presented an unprecedented challenge both globally and in South Africa. Hence a scientific understanding of its impact on healthcare practitioners was crucial to understanding how healthcare organizations, could leverage strategies to help them regain and promote their wellness.

Moreover, an understanding of the issues confronting healthcare organizations, emerged through the lens of participants, thereby strengthening opportunities for managers to effect the necessary changes in preparation for future disasters. There were twelve primary themes and thirty-three sub-themes that emerged from this study. This data was used to guide the design of the newly developed wellness program underpinning this study.

7.3 Summary of the major findings

The key findings will be presented in the sub-sections that follow, which reflect how the research objectives were achieved.

7.3.1 The experiences of healthcare workers at the forefront of the COVID-19 pandemic

The first objective focused on the experiences of healthcare workers at the forefront of the COVID-19 pandemic. The study found that both the healthcare institutions and the healthcare workers were not adequately prepared for the multitude of challenges emerging from the pandemic. There was inadequate infrastructural readiness and a grave lack of critical resources, particularly personal protective equipment (PPE), which left healthcare workers vulnerable to infection during the intense waves of the pandemic. As the situation evolved, "Hospital 1," was found to make modifications to its existing infrastructure, to accommodate the rising number of intensive care unit (ICU) patients, thereby increasing the availability of ICU beds for the district. Despite this, a shortage of beds persisted, as some patients referred from the district hospital, were still unable to access these critical lifesaving facilities.

The inclusion of the first professional nurse and healthcare workers who treated the initial COVID-19 patient (Patient 0) and the first set of positive patients reflected the deep fears experienced by the participants, which undeniably affected their mental health wellness. They voiced concerns that healthcare institutions were unprepared for the crisis and believed that their inadequate leadership had not provided the necessary supervisory support, which consequently complicated their response to the pandemic. Without a pre-established staffing model, existing nurses were asked to volunteer for shifts within the isolation unit without any preparation for the same. A similar situation presented itself in Italy, where a volunteer tragically took their own life, due to the immense psychological strain (Rahman and Plummer 2020: 1).

Hence it can be concluded that healthcare managers had failed to prepare staff for the pandemic and did not assess both their work abilities and mental health before placing them in a new and demanding role. Poor-quality fever tents were found to expose healthcare workers and patients to adverse weather, which reflected that facilities had lacked proper specifications from the National Department of Health. This problem was noted in other provinces as well. Furthermore, the global PPE shortage forced South African healthcare workers to reuse N95 masks and share equipment like goggles. This resulted in participants contracting COVID-19, as evidenced in the data. This issue was also prevalent in other developing countries, with healthcare workers, in India and Iran facing similar challenges regarding PPE reuse and poor infrastructure (Romate and Rajkumar 2022: 12; Aminizadeh *et al.* 2020: 2).

Initially, the training programs for “Hospital 1”, the field hospital and the tracer team appeared to be vigorous, whilst “Hospital 2” focused only on the initial group of healthcare personnel that were recruited to work with COVID-19 patients. Emergency and medical rescue personnel joined “Hospital 1” for training, as they did not have their own training program.

It later became apparent that the training offered to healthcare workers was not specific to their challenges and it was consequently unsustainable and ineffective. This may have contributed to the increase in the infection rates and the psychological distress being experienced by the healthcare workers. Doctors appeared to have received better access to training, for example through webinars on the management of COVID-19 patients. Conversely, paramedics were found to receive little training, which did not meet the demands of their work. Mohammadi *et al.* (2021b: 2) argued that training for emergency medical service personnel was not suited to the nature of their work. It can also be concluded that rural and district healthcare institutions were grossly neglected during the pandemic and that patients accessing services at these institutions, were hugely disadvantaged in terms of receiving quality patient care due to the lack of preparedness of hospitals and healthcare workers. This was important finding as other studies which made such comparisons within a South African context, could not be located.

The study found huge gaps reflecting that healthcare institutions lacked robust comprehensive disaster plans that were aligned with global and national standards and developments. It was also evident during the planning phases that decisions reached by the institutional management teams, disaster response teams or joint operation committee teams, were not transparent, thereby complicating service delivery for the different stakeholders. Therefore, the participants found themselves in the milieu of rapid changes that were being implemented. Healthcare workers were therefore found to be unprepared, physically, psychologically, socially and spiritually.

Of significance, was the total lack of preparedness to work in the “eye of the storm?” Whilst many were found to prepare themselves physically to work during the pandemic, by taking additional vitamins and having healthy meals to strengthen their immune systems, they were found to be psychologically very unprepared. Participants endeavored to protect themselves, by isolating themselves from family members which further exacerbated their loneliness and lack of support.

7.3.2 The effects of COVID-19 on healthcare workers

The second objective focused on the effects of COVID-19 on healthcare workers. The study found that all categories of healthcare workers were physically exhausted due to the turbulent nature of the pandemic and having to endure long working hours in PPE, which affected them physiologically, as they could not eat or drink or use the toilet timeously.

Healthcare workers in other studies, were also found to experience extreme exhaustion, urinary retention and thirst due to prolonged use of their PPE (Kackin *et al.* 2020: 2; Xing *et al.* 2021: 663; Hamid 2026, cited in Meghani and Lalani 2020: 198; Haward, Ridhima and Kalyan 2023: 1; Candido, Tortu, Seghieri and Tartaglia *et al.* 2023: 1284). Of significance, was that the study found that some of the participants were still experiencing symptoms of long COVID-19 but none of them, had been assessed by their healthcare institutions' occupational health departments after they returned to work. This suggests that they were still grappling with the aftereffects of COVID-19 symptoms whilst at work.

Participants were also confronted with intense human suffering and witnessing many patient deaths, which contributed to deep levels of psychological distress. They were very afraid of getting infected, dying and leaving their families behind and were found to be particularly fearful of infecting their family members. They were confronted with similar stress when their colleagues became ill and passed on.

The moral injury, secondary traumatic stress, compassion fatigue and desensitization experienced by healthcare workers, suggests that they experienced pervasive levels of post-traumatic stress disorder and burnout which may linger for decades to come. This suggests the need for healthcare authorities to prioritize their recovery and ensure a healthier workforce. Other studies, in South Korea also found that their participants experienced peri-traumatic distress, emotional exhaustion and worry about infection (Jang, You, Lee and Lee *et al.* 2021: 5).

Several participants had their personal journey as COVID-19 patients, having had near-death experiences and being placed on ventilators. These findings suggest that mental health support be put in place to help such healthcare workers deal with the trauma of these experiences. Many participants took to engaging in a range of spiritually based activities like meditation, mindfulness, woodwork, gardening and playing musical instruments, to deal with their stress. The use of religious and spiritual practices such as prayer and meditation were also supported in other studies (Keiffer, Gonzales-Aragon, Chavez-Diaz and Perales *et al.* 2024: 334) therefore suggesting its potential value within a wellness program.

7.3.3 Impact of COVID-19 on the family life of healthcare workers

The third objective focused on the impact of the COVID-19 pandemic on the families of healthcare workers". Like the healthcare workers, their families also experienced significant psychological distress. They were concerned that their loved ones would become infected whilst caring for COVID-19 patients, as there was no vaccine for their protection. They were also fearful that they would bring the infection home to them, which could cause them and other loved ones to pass on.

Of note was that the study found that many participants had lost their parents, partners and other loved ones. This shock coupled with the distressing way in which funerals had to occur, complicated their grief and added to their strain. Most of the new practices were not in keeping with traditional cultural practices preventing them from gathering strength through ceremonial rituals. Furthermore, healthcare professionals experienced significant guilt stemming from the transmission of infections to their family members.

Moreover, the lockdown disrupted spousal and parent-child relationships due to social distancing measures. Families began experiencing increased financial hardship, especially when some of them lost their jobs. Added financial problems also emerged, when healthcare workers had to assume other child-rearing expenses, when they were abruptly confronted with caring for the children in their families, who were orphaned because of COVID-19.

7.3.4 Social stigma and discrimination: by family and friends, colleagues and the public

The fourth objective revolved around the social stigma and discrimination that healthcare workers experienced. Many encountered huge levels of stigma from family, friends, colleagues and the public. This left them feeling angry, disappointed, frustrated and shocked. Of significance was that they had to endure even greater social isolation, and this lack of social support began affecting them more. The open shunning of colleagues who worked in COVID-19 wards also created heightened levels of mental health distress.

7.3.5 Support structures

Objective 5 concentrated on the establishment of psychosocial support frameworks implemented by healthcare organizations for their employees, as well as the various forms of psychosocial and spiritual support systems that could have offered enhanced assistance. The study found that many participants were disappointed with the lack of support from their supervisors, institutional managers and formal support structures within their institutions. The neophyte doctors and nurses felt that they were “thrown in at the deep end”, and that their seniors had not provided them with the mentoring, supervision, guidance and support to cope with different and extreme clinical realities.

Many were also disillusioned and disappointed regarding the lack of PPE and concern for their safety. In some instances, the refusal to work was met with disciplinary charges which reflect the lack of empathy and support from their employers. The lack of clear policies and guidelines to guide work processes during the pandemic, was also observed in other countries like Iran, the United Kingdom and America (Karimi *et al.* 2020: 1275; Walton, Murray and Christian 2020: 241; Shechter *et al.* 2020: 3).

Very few participants reported having opportunities for debriefing, which they attributed to a lack of leadership skills, on the part of their supervisors and managers. Nursing managers neglected to do physical rounds, instead, they accessed reports on patients' conditions via telephone. Healthcare workers perceived their lack of visibility as a lack of care for them on the ground.

Writers such as Knott (2021: 22) emphasized the significance of debriefing as a means of providing psychological support to hospice nurses tasked with the care of terminally ill patients. Debriefing has strength in that it not only offers support to healthcare workers but can also help supervisors identify healthcare workers at risk for mental health issues, and can facilitate referral for formal psychological services. In recent years, "huddles" are gaining popularity, as a means of providing immediate psychological support to colleagues and finding solutions to problems encountered.

Of significance was that the study found that many healthcare workers had not received any mental health support in the workplace, reflecting a huge void within the organizational structure. Very few participants alluded to being aware of formal support structures (i.e. psychologists and employee assistance programs), that were available at "Hospital 1". Some doctors were provided with the contact details of people outside the institution, who could offer online counselling. Participants mentioned that such services became somewhat available during the second COVID-19 wave in South Africa, leaving many to deal with the trauma of their work without support. Many participants did not access these services, due to the lack of convenience in terms of attending after a full day of work. Their working schedules prevented them from attending these sessions whilst on duty, also many of the professionals who were offering these services were unfamiliar to them and they felt that they would not understand their challenges.

Whilst psychologists were requested to visit the intensive care unit and offer services to nurses and doctors, many were reluctant, using staffing shortages as an excuse. Although this stemmed from fear, it did not negate the fact that these were services crucial to upholding the mental health wellness of healthcare workers. Participants from “Hospital 2” expressed having no knowledge of, or access to any counselling services at their institution. The paramedics reported that their department did not have an Employee Assistance Practitioner (EAP) or a psychologist, further reflecting the void in mental health support.

What emerged however was that the families of healthcare workers and leaders of their faith organizations, had provided the most valuable levels of support and comfort. The gestures of kindness offered by the public reflected their care, lending support for healthcare workers to face their difficulties.

7.3.6 A holistic physical, psychosocial and spiritual support program

The sixth objective of the study concentrated on formulating recommendations for a biopsychosocial-spiritual program, which resulted in the establishment of a comprehensive holistic wellness program for healthcare workers. This framework outlines wellness interventions that healthcare workers can implement. A group of experts contributed to a discussion related to the nature of wellness that could be interwoven into a wellness program. Several of these interventions were first to emerge, through interviews with the healthcare workers, further supporting their inclusion within the program.

A review of the literature on best practice wellness interventions further supported those emerging within the data. The credibility of both the collected data and the developed program was further strengthened through validation by wellness experts. Crucially, the proposed wellness interventions are designed to be universally applicable across all employee categories within healthcare organizations, ensuring comprehensive reach and potential impact. The wellness program and the various components and interventions which underpin it was presented in chapter six.

7.4 Recommendations

Recommendations for the study were made because of the gaps that were identified in the study.

7.4.1 Recommendations for policy makers

It is recommended that national policymakers adopt an inter-sectoral and collaborative strategy that involves all relevant departments. The early development and dissemination of clear and concise legislation, policies, protocols, guidelines and standard operating procedures, can serve to guide practice. In addition, it can assist in reducing stress, uncertainty, fear and anxiety of healthcare workers during pandemics and crisis periods. The recommendations are therefore to:

- **Develop a standardized, comprehensive evaluation tool that is disseminated to all healthcare institutions to:**
 - Evaluate the plans that were implemented during the pandemic. Review all post-pandemic reports and implement quality assurance mechanisms. Review and strengthen existing policies and guidelines to support the different provinces e.g. to strengthen hospitals in rural areas and district hospitals, as it was evident that these institutions suffered neglect in terms of resource allocation.
 - Assess the effectiveness and efficiency of field hospitals, contact tracing, the use of fever tents, staffing models used, and infrastructural readiness and whether those plans implemented were sustainable and feasible.
- Strengthen and monitor disaster preparedness at all levels: national, provincial, district and local. Prioritize the development of rigorous contingency plans that are not just theoretically sound but also feasible within the specific context. Ensure that all stakeholders are fully informed and prepared to perform their designated tasks in the event of a disaster.
- Develop and implement a standardized disaster plan checklist that can serve as a guideline for all levels of healthcare, thus ensuring that disaster plans are comprehensive and effective.

- Establish a central database for the acquisition of material and other resources such as personal protective equipment. This will eliminate any irregular expenditure and ensure that the end user is receiving quality products for their safety. These recommendations would enable policy makers to identify the best practices for future use and bridge gaps that exist, develop standardized policies and guidelines.
- Develop policy frameworks that will enable healthcare workers gain access to child support services during pandemics, such as allowing a live-in nanny.
- Engage with the private healthcare sector to negotiate and formalize agreements that guarantee preferential rates for all healthcare professionals when they are admitted to these facilities during pandemics or disasters. Additionally, establish a policy framework to ensure the implementation of this arrangement.
- Provide clear guidelines about the Compensation for Occupational Injuries and Diseases Act No. 130 of 1993, as amended, to accommodate the compensation of healthcare professionals who incur medical expenses due to illnesses contracted in the line of duty during pandemics.
- Ensure that there are effective systems in place to monitor and evaluate the

7.4.2 Human resource management: apply evidence-based practice

A sound and sustainable human resource plan will contribute to reducing the psychological distress that healthcare workers experienced during the pandemic and assist in the retention of healthcare workers within the public sector. Hence, the following recommendations can be made:

- **Compile a national database:** of retired healthcare workers who are willing to assist in times of disasters for the following: contact tracing, providing psychological support to healthcare workers and assisting with following up on staff that are sick and away from work.

- **Identify best practices and provide protocols and guidelines on:**
 - An effective staffing model that can be implemented during a pandemic and other types of disasters, especially one with more suitable shifts (e.g. 8 hourly rotations).
 - When and how additional human resources would be recruited, so that this can be done timeously. This recruiting process should be decentralized to the district and facility level.
 - The identification of vulnerable employees and how their safety would be managed during a pandemic. This includes for example, pregnant healthcare workers.
 - The assignment of married healthcare professionals, working in the same field, during a pandemic. Engage with organized labour to ensure equitable labour practices.
- Ensure that effective systems are in place for monitoring the implementation of these guidelines and relevant policies.
- Develop and execute a more dependable electronic reporting system that enhances the accuracy of information regarding the categories of healthcare workers, who contract infectious diseases and those who may lose their lives during a pandemic.
- Incorporate measures that timeously address the psychological and spiritual welfare of healthcare professionals and their families within disaster management policies.
- **Gratitude tokens:**
 - Issue healthcare workers with a letter of gratitude as a token of appreciation, to them and their families. Despite the timing, this can still be implemented as healthcare workers shared that this would demonstrate the Department of Health's appreciation of them.
 - Ensure timeous implementation of gratitude tokens, such as gratuity leave for healthcare professionals who worked during the COVID-19 pandemic (Public Health and Social Development Sectoral Bargaining Council 2023:

4). In anticipation of future large-scale emergencies, timeous execution of this initiative is crucial to ensure equitable labour practice.

- Provide staff with a snack or a cup of coffee weekly during a pandemic or any other disaster, as a gesture of gratitude. To sustain staff morale, this initiative should be implemented bi-annually as a sign of appreciation. Arrangements for this can be facilitated by sponsors.

- **Establish protocols for occupational health departments:** to systematize the follow-up procedures for healthcare workers experiencing ongoing symptoms of long COVID-19. Include strategies for monitoring these employees and ensuring that they receive adequate support within the workplace.
- **Monitor the adherence:** of healthcare institutions to legal prescripts specifically conducting periodic medical surveillance, as it was evident in the current study that many nurses had chronic medical diseases and were in the more mature cohort of healthcare workers.
- Improve and strengthen wellness programs and implement more robust holistic wellness programs such as the one developed in the current study.

7.4.3 Standardization of policies and procedures

The lack of timeous dissemination of standardized policies and procedures causes unnecessary and avoidable stress and confusion for healthcare workers. The following recommendations can be made:

- Strengthen and adopt guidelines that were effective during the COVID-19 pandemic as best practices, which can be applied during future pandemics or other such disasters. For example, the National Department of Health disseminated guidelines to healthcare institutions, early in the pandemic, such as postponing booked surgeries to open up bed space for COVID-19 patients, this was an effective strategy that can be applied in the future (Furstenburg *et al.* 2020: 1; Rangai, Ramkillawan and Smith 2022: 37).

- Develop and provide specific guidelines for structures such as fever tents (Clear specifications). Service providers for this item, need to be on the national database. It is recommended that inter-sectoral collaboration between the Department of Health and the Civil Defense Force, for the setting up of temporary structures such as fever tents, occurs.
- Implement inter-sectoral collaboration between the Department of Health and the Department of Education, to assist the children of healthcare workers with online or remote learning during a pandemic.

The responsibility lies with the provincial and district health departments to ensure that all the relevant stakeholders are trained in legislation, policies and guidelines developed by the National Department of Health. It is also the responsibility of these two levels of government, to ensure that all hospitals and clinical facilities are compliant with regards to implementing the necessary legislation, policies and guidelines.

7.4.4 Recommendations for healthcare institutions

Proactive leadership plays a crucial role in fostering the psychological and social well-being of healthcare workers. A common issue emerging in the study was that leaders lacked leadership skills.

7.4.4.1 Leadership

Healthcare workers were dissatisfied with their leaders, as many felt that they did not receive the necessary psychological support from their leaders and alluded to the fact that their leaders lacked leadership skills. They were referring to leaders at different levels. All categories of healthcare workers consistently reported this. The following recommendations can be made:

- Invest in training healthcare managers, at all levels, in leadership skills. Leaders need to be able to inspire, motivate and listen to healthcare workers and guide them in managing their immediate concerns and mental health issues. Alzoubi and Alzaatreh (2023: 51) argued that leaders who adopted transformational

leadership skills during the COVID-19 pandemic, had better success with retention and job satisfaction amongst their staff members.

- Empower healthcare leaders and managers to be visible to their supervisees and lead with compassion and empathy. Mock pandemic disaster drills may assist with building capacity amongst the healthcare workforce such as doctors, nurses and paramedics.

7.4.4.2 Debriefing

Debriefing is a valuable tool to manage and identify psychological issues, as early as possible. This opportunity was missed by leaders during the COVID-19 pandemic.

- Provide training to capacitate supervisors and managers on how to conduct debriefing sessions for their supervisees.
- Formalize and inculcate a culture of debriefing at healthcare institutions. Implement debriefing at an operational level to discuss negative clinical incidents and improve practice. This should also be implemented by immediate supervisors in a group where healthcare workers may raise their concerns, fears and anxiety and seek solutions together in a consultative approach. During pandemics, managers need to also employ other online methods to hold debriefing sessions, as it may not be possible to have face-to-face contact.
- Implement short, focused workplace “huddles”, it offers a promising avenue for addressing immediate operational challenges and fostering a culture of continuous improvement.
 - These brief debriefing sessions provide a platform for rapid problem-solving, enabling teams to swiftly identify, analyze, and implement solutions to emergent issues encountered in their daily work.

7.4.4.3 Mentorship programs

Mentorship programs are important to strengthen the workforce as far as their professional responsibilities are concerned, as well as for their psychosocial well-being. The following recommendations can be made for healthcare organizations:

- Develop, implement, monitor and evaluate mentorship programs, for novice nurses, paramedics and doctors. This process should be formalized for all categories of healthcare workers in all departments.
- Develop and implement mentorship programs that are especially suitable for newly appointed managers.

7.4.4.4 Healthcare institutional support structures

Whilst taking care of the employee, it is also necessary to extend services to the family members of healthcare workers as follows:

- **Employee assistance practitioners:** are to engage directly with healthcare workers annually, to ensure that their services are widely recognized.
 - **Induction and orientation programs:** are to include a segment dedicated to employee assistance practitioners, allowing them to meet new staff members, including nurses, doctors, paramedics and other categories of healthcare workers to introduce themselves and elucidate the range of services they provide.
- **Establish a “care committee”:** to provide psychological support for healthcare workers that should be inclusive of a psychologist, social worker, employee assistance practitioner, faith leaders and other wellness professionals who make their service known to healthcare workers. This should include the provision of individual therapeutic services and group therapy programs for healthcare workers.
 - **During pandemics and other disasters:** expand the committee to include other professionals and retired personnel to provide psychological support to healthcare workers and their families. Such services could also be extended to families when required, such as instances when a healthcare worker dies, and the bereaved family requires support or when the healthcare worker is critically ill in hospital.
- **Offer 24-hour psychological services:** for healthcare workers and their families, throughout the week via helplines and online platforms.

- **Conduct medical surveillance for healthcare workers:** who return to work following long term illness or serious illness. Make a concerted effort to rigorously implement the Department of Health guidelines and policies regarding employee health and wellness. Actively advocate for personnel who require alternate placement or additional care (Occupational health department).
- **Formalize grief counseling services:**
 - For healthcare professionals and their families, during pandemics or crises, to help them navigate their emotional distress.
 - Provide timely psychological support for those experiencing professional grief from facing increased death and trauma. Implement an evidence-based framework to identify these individuals and ensure that they receive the necessary support, making this service compulsory.
 - **Provision of formalized structures that offer routine counselling:** for all individuals working in high-risk environments such as the emergency and intensive care unit, as well as paramedics, to prevent post-traumatic stress disorder and other long-term mental health issues.
- **Establish a multi-faith institutional “spiritual care committee”:** to drive spiritual care activities for workers and patients alike. Include internal and external stakeholders.
 - Provide a space for committee members to host meetings and make provision for healthcare workers involved in these activities to attend.
 - Sensitize healthcare workers to the availability of such services.
 - Commission a private space for spiritual counselling.
- **Design and set up outdoor resting areas:** where healthcare workers can de-stress during their lunch breaks.
 - Invest in durable garden furniture such as concrete tables and chairs that can be placed under trees for healthcare workers to relax and connect with nature.
 - Prioritize emergency medical service bases for these resources.

- **Improve the crew room for paramedics:** improve ventilation and equip it with comfortable furniture and an air conditioner for paramedics to relax during their breaks.
- **Develop strategies:** to identify healthcare workers who have post-traumatic stress disorders and provide them with the psychological care that they require.
- **Equip healthcare institutions with the appropriate technological devices:** such as tablets that are mounted to movable stands, so that they can be used when face-to-face contact is not allowed.
- **Share lessons learnt:** in a consultative process, document and store these experiences on a database for future planning and use. This will ensure that healthcare institutions are better prepared for any future disaster.
- **Maintain effective communication:** at the onset of any pandemic, and periodically, it is recommended that the Department of Health make a concerted effort to keep the families of healthcare workers aware of what is happening and how their loved ones will be protected with adequate PPE. This can contribute to good governance as far as human resources are concerned and at the same time reduce the psychological distress of families. An email or a short message will be more personal, than a message on a news channel.
- **Follow up on employees who are sick during the pandemic or injured in disasters:** the human resource department is to take a more active role in following up on sick employees and arranging for psychological support for the families who require it.
- **Empowering the workforce:** by rotating nursing staff for short periods of time in intensive care units and emergency care departments to ensure their clinical preparedness to work in such departments during emergencies and pandemics.

7.5 Implications for education and training

The participants did have some information on pandemics, but as this was a new phenomenon in South Africa and the rest of the world, it was important that they received education and training on pandemic management. The following are recommendations made for each sector of healthcare workers:

- **Doctors:** Curricula for medical students are to comprise a module that facilitates the theoretical component on the basic principles of pandemic, infection control measures and disaster management. A clinical component within the clinical skills laboratory/ simulation laboratory, should be established with different scenarios for them to triage medical patients, as well as to learn the correct techniques for donning and doffing and other relevant skills. Introduce and strengthen any existing modules related to spiritual care of self and others.
- **Nurses:** The module in the curricula that includes disaster nursing for nursing students needs to be expanded to include nursing practices during a pandemic. This should include the basic principles of pandemic management and infection control measures. A clinical component in the clinical skills laboratory/ simulation laboratory should be established, so that different scenarios for them to triage medical patients, as well as to learn the correct techniques for donning and doffing can be facilitated. Introduce and strengthen any existing modules related to spiritual care of self and others.
- **Paramedics:** should undergo a distinct training regimen compared to other healthcare professionals, primarily due to their operational environment within the confined spaces of ambulances. It is essential that the curriculum for pandemic management is developed by experts, with substantial knowledge and experience in the field. This training must be designed specifically, to address the unique demands of their roles. Additionally, paramedics should receive comprehensive instruction on the proper techniques for donning and doffing personal protective equipment (PPE), including the appropriate timing and locations for these actions while interacting with the public in the field. Furthermore, ambulances should be equipped with a complete set of PPE, to ensure immediate availability in the event of an unforeseen situation, requiring such equipment. Introduce and strengthen any existing modules related to spiritual care of self and others.
- **In-service training for healthcare workers:** provide ongoing training on pandemic and disaster management. Train-the-trainer programs should be developed in healthcare institutions which would ensure that all healthcare workers are appropriately trained. Employ more suitable teaching strategies e.g. when

teaching psycho-motor skills such donning and doffing of PPE. Provide ongoing training on spiritual care of patients.

7.6 Building self–resilience and family resilience

Chang and Kim (2022: 1) argued that the building of resilience includes building activities and initiatives which include three dimensions. These include internal resources, external support and positive coping mechanisms. Irrespective of whether there is a pandemic or disaster of a different nature or not, these activities can be included within a psychosocial and spiritual program that can build resilience and create therapeutic healing for the healthcare workers, families and colleagues alike. The above suggestions for building resilience were included in the holistic wellness program developed and the recommendations discussed in this chapter.

7.7 Limitations of the study

- It was challenging to access participants due to COVID-19 restrictions that affected hospitals particularly. The researcher had to liaise with key personnel, who assisted her with meeting with potential participants and recruiting them for the study safely and within the context of COVID-19 protocols. Data saturation was, however, reached despite initial difficulties with the recruitment of participants. The data collection spanned 12 months. This limitation, however, became a strength of the study, as the researcher gained a deeper insight into the experiences of the healthcare workers as the pandemic progressed through the various waves.
- Another limitation was that participants had to be interviewed remotely as a result some preferred being interviewed telephonically. This method limited the researcher from viewing non-verbal responses but the researcher did try to mitigate this by carefully listening to the change in speech, stammering, long pauses and snuffles. The researcher then had to confirm with the participants that they were crying and emotional.
- The data collection process was also prolonged as interviews had to be rescheduled on many occasions due to the participants being physically exhausted or psychologically disturbed due to their work and family circumstances.

7.8 Recommendations for further research

The following recommendations are made in this regard:

- The experiences of family members of healthcare workers can be investigated, as the current study provided their secondary experiences through the lens of the participants.
- An exploration of how post-traumatic stress has affected key healthcare workers five years from the onset of the pandemic, is deserving of further empirical investigation.
- The experiences of healthcare workers as COVID-19 patients and its long-term effects is crucial in developing programs to support these individuals towards achieving optimal wellness.
- The evaluation of wellness programs to identify best practices and improve such programs is also deserving of greater attention.
- An exploration of the experiences of the public as COVID-19 patients in hospitals and their perceptions regarding the “holistic care” that they received from healthcare workers will be significant in improving clinical practice. With priority being given to the provision of psychosocial and spiritual care.
- Overall increased studies on the holistic effects of COVID-19 on society as a whole as these societal problems, may also lead to health problems, thus adding to the burden of the healthcare system.

7.9 Conclusion

The current chapter provided a summary of, and conclusions related to the key findings of the study. A major finding was that the healthcare workers endured complex and multifaceted challenges as they navigated the pandemic. The study concluded that paramedics were the most neglected category of healthcare workers, but they developed resilience and provisioned services despite resources and support. The study unearthed various complexities of the COVID–19 pandemic that bears relevance to other disasters that may emerge in the future. The recommendations are therefore important and extensive and can be applied broadly for future crises. The wellness program that was

developed, sits at the cornerstone of this study, illuminating pathways for healthcare to heal and build resilience as they traverse the difficult landscape of healthcare within a developing country.

The following quotation reflects the spirit of the healthcare workers who were interviewed in this study. Despite working under tumultuous and distressing circumstances they prioritized patient care. This is a value that will remain entrenched as one of the most “valuable values” of healthcare workers during the COVID-19 pandemic:

“As we serve others we are working on ourselves; every act, every word, every gesture of genuine compassion naturally nourishes our hearts as well. It is not a question of who is healed first. When we attend to ourselves with compassion and mercy, more healing is made available for others and when we serve others with an open and generous heart, great healing comes to us” (Wayne Muller).

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149 Brixham Road
Orient Heights
Pietermaritzburg
3201
3 November 2020

Dr. Lutge
Human Research and Management Secretariat
Private Bag x 9058
Pietermaritzburg
3200

Request for Permission to Conduct Research

Dear Dr. Lutge

My name is Mrs. Mary Shamane Subhan, a PhD student at the Durban University of Technology. The research I wish to conduct for my Doctoral thesis is titled:

Health care practitioners and their families within the milieu of the COVID-19 pandemic: A holistic response to enable wellness.

I am hereby seeking your consent to conduct my study within the KwaZulu Natal Department of Health, UMgungundlovu Health District. Participants will initially include minimal samples of doctors (N=10), registered nurses (N=15), enrolled nurses (N=10) and paramedics (N=10). The process of recruitment of participants will continue until data saturation occurs. Participants will be recruited from the UMgungundlovu Health District office, Northdale Hospital and Grey's Hospital and EMRS. Gate keeper approval will be requested from the CEO'S of the two institutions, the district manager UMgungundlovu Health District and the district manager of EMRS.

I have provided you with a copy of my proposal which includes copies of the data collection tools and consent forms to be used in the research process, as well as a copy of the approval letter which I received from the Institutional Research Ethics Committee (IREC).

If you require any further information, please do not hesitate to contact me: cell number: 084 555 9938, e-mail: marysubhan72@gmail.com.

Thank you for your time and consideration in this matter.

Yours sincerely

Mrs. M.S. Subhan
Durban University of Technology



KWAZULU-NATAL PROVINCE
HEALTH
REPUBLIC OF SOUTH AFRICA

DIRECTORATE:

Postal Address: Private Bag X9050
Physical Address: 330 Langalibalele Str; PM Burg; 3201
Tel: 0333953189/3123/2805 Fax: 033-3943782
Email address: hrkm@kznhealth.gov.za
www.kznhealth.gov.za

Health Research & Knowledge Management Unit

NHRD Ref: KZ_202101_026

Dear Mrs M S Subhan
(DUT)

Approval of research

1. The research proposal titled 'Health care practitioners and their families within the milieu of the COVID-19 pandemic: A holistic response to enable wellness' as approved by the Durban University of Technology Research Ethics Committee under reference IREC 145/20, was reviewed by the Chair of the KZN Provincial Health Research and Ethics Committee, in terms of the amended process for the approval of Covid-19 related research, as noted by the Head of the KZN Department of Health on 24/03/2020.

The proposal is hereby **approved** for research to be undertaken at Greys hospital, Northdale hospital, uMgungundlovu District office and Emergency Medical and Rescue Services.

2. You are requested to take note of the following:
 - a. *All research conducted in KwaZulu-Natal must comply with government regulations relating to Covid-19. These include but are not limited to: regulations concerning social distancing, the wearing of personal protective equipment, and limitations on meetings and social gatherings.*
 - b. *Kindly liaise with the facility manager BEFORE your research begins in order to ensure that conditions in the facility are conducive to the conduct of your research. These include, but are not limited to, an assurance that the numbers of patients attending the facility are sufficient to support your sample size requirements, and that the space and physical infrastructure of the facility can accommodate the research team and any additional equipment required for the research.*
 - c. *Please ensure that you provide your letter of ethics re-certification to this unit, when the current approval expires.*
 - d. *Provide an interim progress report and final report (electronic and hard copies) when your research is complete to **HEALTH RESEARCH AND KNOWLEDGE MANAGEMENT, 10-102, PRIVATE BAG X9051, PIETERMARITZBURG, 3200** and e-mail an electronic copy to hrkm@kznhealth.gov.za*
 - e. *Please note that the Department of Health shall not be held liable for any injury that occurs as a result of this study.*

For any additional information please contact Ms G Khumalo on 033-395 3189.

Yours Sincerely

Dr E Lutge

Chairperson, Health Research Committee

Date: 05/04/2021

GROWING KWAZULU-NATAL TOGETHER

149 Brixham Road
Orient Heights
Pietermaritzburg
3201
24 November 2020

The Acting District Manager
Mrs. M. Green
UMgungundlovu Health District
171 Hoosen Haffeejee Street
Pietermaritzburg
3201

Request for Permission to Conduct Research

Dear Mr. Green

My name is Mrs. Mary Shamane Subhan, a PhD student at the Durban University of Technology. The research I wish to conduct for my Doctoral thesis involves:

Health care practitioners and their families within the milieu of the COVID-19 pandemic: A holistic response to enable wellness.

Please note that I did receive your initial letter of approval, however the title of my study has since changed. I am hereby seeking your consent to conduct my study within the UMgungundlovu Health District. Participants will include an initial minimal sample of doctors (N=10), registered nurses (N=15), enrolled nurses (N=10) and paramedics (N=10). Participants will be recruited from the UMgungundlovu Health District office, Northdale Hospital and Grey's Hospital and EMRS. Gate keeper approval will be requested from the CEO'S of the two institutions and the district manager of EMRS. The recruitment of participants will continue until data saturation occurs.

I have provided you with a copy of my proposal which includes copies of the data collection tools and consent and/ or assent forms to be used in the research process, as well as a copy of the approval letter which I received from the Institutional Research Ethics Committee (IREC).

If you require any further information, please do not hesitate to contact me: cell number: 084 555 9938, e-mail: marysubhan72@gmail.com.

Thank you for your time and consideration in this matter.

Yours sincerely

Mrs. M.S. Subhan
Durban University of Technology



KWAZULU-NATAL PROVINCE
HEALTH
REPUBLIC OF SOUTH AFRICA

DIRECTORATE:

Planning M&E

Private Bag X9124, PIETERMARITZBURG, 3200
171 Hoozen Hallajee Street/81 Peter Kerchoff Street
Tel: 033 8971089 Fax: 033 8971078

30 September 2020

To: Mrs M. S. Subhan

From: Mr. M. R. Green
Acting District Director
uMgungundlovu Health District

**Health care practitioners and their families within the milieu of the COVID-19 pandemic:
A holistic response to enable wellness**

This letter serves to provide permission for Mrs. M. S. Subhan to conduct her proposed research study on **"Health care practitioners and their families within the milieu of the COVID-19 pandemic: A holistic response to enable wellness"** within the Department of Health, uMgungundlovu District in order to produce a Doctoral Thesis being completed through the Durban University of Technology. The study will be implemented once Ethical Approval has been obtained.

The major beneficiaries of the expected outcomes of this study will be Department of Health employees who will experience improved wellness outcomes post Covid 19 pandemic.

Support is granted on the proviso that Mrs. Subhan will share the outcome of her research study with the uMgungundlovu District in the KZN Department of Health.

Regards,

Mr. M. R. Green
Acting District Director
uMgungundlovu Health District

GROWING KWAZULU-NATAL TOGETHER

149 Brixham Road
Orient Heights
Pietermaritzburg
3201
24 November 2020

The CEO
Dr. Bilenge
Grey's Hospital
201 Townbush Road
Pietermaritzburg
3201

Request for Permission to Conduct Research

Dear Dr. Bilenge

My name is Mrs. Mary Shamane Subhan, a PhD student at the Durban University of Technology.
The research I wish to conduct for my Doctoral thesis is titled:

Health care practitioners and their families within the milieu of the COVID-19 pandemic: A holistic response to enable wellness.

I am hereby seeking your consent to conduct my study in Grey's Hospital. Participants will include an initial minimal sample of doctors (N=10), registered nurses (N=15), and enrolled nurses (N=10). This process will continue until data saturation occurs.

I have provided you with a copy of my proposal which includes copies of the data collection tools and consent and/ or assent forms to be used in the research process, as well as a copy of the approval letter which I received from the Institutional Research Ethics Committee (IREC).

If you require any further information, please do not hesitate to contact me: cell number: 084 555 9938, e-mail: marysubhan72@gmail.com.

Thank you for your time and consideration in this matter.

Yours sincerely

Mrs. M.S. Subhan
Durban University of Technology



Private Bag X 9001, Pietermaritzburg, 3200
201 Town Bush Road, Northern Park, Pietermaritzburg, 3201
Tel: 0338973321 Fax: 0338973398

GREY'S HOSPITAL
OFFICE OF THE CEO

To:	Mrs. M. S. Subhan 149 Brixham Road, Orient Heights, Pietermaritzburg, 3201
From:	Dr. K. B. Bilenge CEO - Greys Hospital
Date:	30 November 2020
Re:	Request for permission to conduct research at Grey's Hospital: <i>Health care practitioners and their families within the milieu of the COVID-19 pandemic: A holistic response to enable wellness</i>

Dear Mrs. Subhan

Your request to conduct research at Grey's Hospital refers.

Permission to conduct the above study is hereby granted under the following conditions:

- Final ethics approval is a prerequisite for conducting your study at our hospital. Once obtained, please submit a copy of the full and final ethics approval;
- You are also required to obtain approval for your study from the Provincial Department of Health KZN Health Research Unit prior to commencement. Once obtained, please submit a copy. You will find more information at: <http://www.kznhealth.gov.za/hrkm.htm>
- Confidentiality of hospital information, including staff and patient medical and/or contact information, must be kept at all times; **Patient/staff records are not to be removed from the hospital premises nor are you allowed to photocopy/ photograph them.**
- **You are to ensure that your data collection process will not interfere with the routine services at the hospital;**
- **In light of the COVID-19 risk, you are advised to make contact with participants via a video-conferencing/ online platform as opposed to on-site face-to-face meetings to conduct your interviews;**
- You are to ensure that hospital resources are not used to manage your data collection, e.g. hospital staff collecting and/or collating data; photocopying; telephone; facsimile, etc.;
- Informed consent is to be obtained from all participants in your study, if applicable;
- Policies, guidelines and protocols of the Department of Health and Grey's Hospital must be adhered to at all times;
- Professional attitude and behaviour whilst dealing with research participants must be exhibited;
- The Department of Health, hospital and its staff will not be held responsible for any negative incidents and/or consequences, including injuries and illnesses that may be contracted on site, litigation matters, etc. that may arise as a result of your study or your presence on site.
- You are required to submit to this office a summary of study findings upon completion of your research.
- As this is a study falling under "Employee Wellness", you are requested to make contact with the **Human Resources Manager, Mr. J. Khumalo**, at Grey's Hospital once you are ready to commence data collection.
- Please keep a copy of this approval on your person at all times whilst in the facility.

Recommended by:

Approved by:

Dr L. Naidoo
Senior Manager: Medical Services

Dr. K. B. Bilenge
Hospital CEO

GROWING KWAZULU-NATAL TOGETHER

149 Brixham Road
Orient Heights
Pietermaritzburg
3201
2 August 2020

The CEO
Mrs. K. Makhathini
Northdale Hospital
Private Bag 9006
Pietermaritzburg
3201

Dear Mrs. Makhathini

Re: Permission to conduct a research study at Northdale Hospital

My name is Mrs. Mary Shamane Subhan, currently employed at Grey's Nursing Campus as a Head of Department. I would like to apply for permission for the above.

I am registered at: The Durban University of Technology

Course: Doctor of Philosophy (PhD)

Topic: The mental health issues confronting health care professionals at the forefront of COVID-19: Implications for personal and family wellbeing and strategies to strengthen resilience.

Proposed dates for data collection: October/ November 2020

Proposed sample: Medical doctors of all categories (n=15) and registered nurses (n=15).

I will purposefully sample at least three (n=3) participants of each category and then use a snowball method of recruiting other participants.

Although I will know who I am interviewing on transcribing, analyzing and reporting data I will not reveal the names of the participants (they will be given encoded names) thereby ensuring anonymity.

Participants will be given a letter of information and a written consent form to sign.

Data collection instrument: Data will be collected by means of a structured interview

I will use technological methods to collect data in order to maintain the COVID-19 safety standards.

Due to the above data collection method, I am anticipating collecting data during the off duty time of the participants.

I will bear costs.

Hospital and clinic names will be encoded to maintain anonymity and confidentiality.

Ethical Clearance: Once my proposal is passed and I receive ethical clearance from The Higher Education Research Committee, at the university, from the UMgungundlovu Health District and the KwaZulu Natal Health Knowledge Management component, then only will I inform you and commence data collection (I will then also forward you a copy of my approved proposal, letter of information, consent form, interview data collection instrument and my IREC number).

The strictest ethical standards would be abided by.

Research Supervisor: Professor R. Bhagwan

Contact details: bhagwanr@dut.ac.za, telephone 031 3732197

- My research is motivated by evidence that the COVID-19 Pandemic is having considerable psychological effects of health care professionals, across the globe and in South Africa.
- Health care professionals are caring for the infected patients, yet they themselves and their families are becoming infected.
- The study will have great value in that health care professionals will be able to verbalize their fears, anxieties and stressors and the impact this has on them personally; their families and professionally.
- Data analyzed will be used to develop guidelines to prepare a more resilient work force and will inform curricula for future generations of health care professionals.
- All participants, hospitals, clinics, the UMgungundlovu Health District and the KwaZulu Natal Department of Health will be informed of the findings and guidelines.
- The findings of the study will be presented at the KwaZulu Natal Department of Health Research day.
- I also envision publishing the findings in accredited journals.

Yours Faithfully

Mrs. M.S. Subhan

subhan.mary@kznhealth.gov.za

084 555 9938



KWAZULU-NATAL PROVINCE
HEALTH
REPUBLIC OF SOUTH AFRICA

1389 Cheta Molale Road, Pietermaritzburg, 3201
Private Bag X9006, PIETERMARITZBURG, 3200
Tel. 033-387 9017 Fax: 033-3674 251 Email: Edward.Manyokole@kznhealth.gov.za
www.kznhealth.gov.za

NORTHDAL HOSPITAL
CHIEF EXECUTIVE OFFICER

Reference: Mr R E Manyokole
Date: 11 January 2021

To:	Mrs Mary Subhan – Educator – Greys hospital
From:	Mr R.E. Manyokole – Acting CEO - NDH
Subject:	Permission to do a research study
Topic:	Health care practitioners and their families within the milieu of the Covid – 19 pandemic: A Holistic response to enable wellness.

Dear Madam

The information above serves as a reference to this communication as per your request dated: 12 December 2020 as well as your follow up on this regard.
Please bear with this office for the delays in response, hence you know that we are having the pressure in trying to meet the demands for the lives of people.

Response on the study:

Please be notified that this office gives you the permission to go ahead of your research study being guided by the current protocols/guidelines of Covid 19, depending on the methodology that you will use to obtain the information thereof.

Conclusion:

As per the ethical principle that you follow, it will be to the interest of this office to keep the information you obtained as confidential as necessary and to share with this office the information that deemed necessary and permissible. I hope you have all the necessary help for the success of this research study and further communications would be made should there a need.

Regards,

Mr R.E. Manyokole
(Acting CEO – Northdale hospital)

149 Brixham Road
Orient Heights
Pietermaritzburg
3201

11 November 2020

The District Manager: EMRS
Mr. A. Mohammed
EMRS
UMgungundlovu Health District
3200

Request for Permission to Conduct Research

Dear Mr. Mohammed

My name is Mrs. Mary Shamane Subhan, a PhD student at the Durban University of Technology.
The research I wish to conduct for my Doctoral thesis is titled:

Health care practitioners and their families within the milieu of the COVID-19 pandemic: A holistic response to enable wellness.

I am hereby seeking your consent to conduct my study in the UMgungundlovu Health District: EMRS. Participants will initially include a minimum of ten (N-10) paramedics. The recruitment process will continue until data saturation occurs.

I have provided you with a copy of my proposal which includes copies of the data collection tools and consent forms to be used in the research process, as well as a copy of the approval letter which I received from the Institutional Research Ethics Committee (IREC).

If you require any further information, please do not hesitate to contact me: cell number: 084 555 9938, e-mail: marysubhan72@gmail.com.

Thank you for your time and consideration in this matter.

Yours sincerely

Mrs. M.S. Subhan
Durban University of Technology


health

 Department:
Health
PROVINCE OF KWAZULU-NATAL

DIRECTORATE:

Emergency Medical Service

 Email: si.mohamed@kznhealth.gov.za
www.kznhealth.gov.za

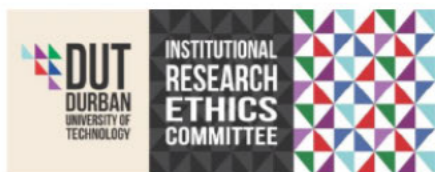
Date: 23 DECEMBER 2020	File No. 001
To: Mrs. M.S. SUBHAN 149 BRIXHAM ROAD ORIENT HEIGHTS PIETERMARITZBURG 3201	From: Mr. C.S. MTHIMKHULU : District Manager : EMS : UMGUNGUNDLOVU
SUBJECT: RESEARCH STUDY	

With regards to your request, this confirms our support, and therefore we grant you permission to conduct interviews with any category of our staff.

Should you require any further assistance, you are free to contact my office.

Yours Sincerely

A ~~MR C.S. MTHIMKHULU~~
 DISTRICT MANAGER
 EMS:UMGUNGUNDLOVU



Institutional Research Ethics Committee
Research and Postgraduate Support Directorate
2nd Floor, Berwyn Court
Gate 1, Steve Biko Campus
Durban University of Technology

P O Box 1334, Durban, South Africa, 4001

Tel: 031 373 2375
Email: lavishad@dut.ac.za
http://www.dut.ac.za/research/institutional_research_ethics

www.dut.ac.za

Annexure 11

17 February 2021

Mrs M S Subhan
149 Brixham Road
Orient Heights
Pietermaritzburg
3201

Dear Mrs Subhan

Health care practitioners and their families within the milieu of the COVID-19 pandemic: A holistic response to enable wellness

Ethical Clearance number IREC 145/20

The Institutional Research Ethics Committee acknowledges receipt of your notification regarding the piloting of your data collection tool.

Kindly ensure that participants used for the pilot study are not part of the main study.

In addition, the IREC acknowledges receipt of your gatekeeper permission letters.

Please note that **FULL APPROVAL** is granted to your research proposal. You may proceed with data collection.

Any adverse events [serious or minor] which occur in connection with this study and/or which may alter its ethical consideration must be reported to the IREC according to the IREC SOP's.

Please note that any deviations from the approved proposal require the approval of the IREC as outlined in the IREC SOP's.

Yours Sincerely

Prof J K Adam
Chairperson: IREC

LETTER OF INFORMATION

Title of the Research Study:

Health care practitioners within the milieu of the COVID-19 pandemic: A holistic response to enable wellness.

Principal Investigator/s/researcher: Mrs. Mary S. Subhan

Masters in Technology; Nursing

Supervisor: Professor: R. Bhagwan

PhD: PhD: Community and Development Disciplines: Senior Lecturer

Brief Introduction and Purpose of the Study:

In December 2019 a novel coronavirus outbreak of pneumonia had emerged in China. The novel COVID-19 (CV-19), since spread globally and continues spreading at an alarming rate throughout the globe and South Africa. The World Health Organization reported that the global statistics as at the 9th August 2020 were 19 462 112 confirmed COVID-19 positive cases and 722 285 deaths (World Health Organization: 2020). Of this South Africa reported a total number of 559 859 COVID-19 positive cases and 10 408 deaths (Department of Health: 2020). The most recent data released, 20th September 2020, recorded 31 008 616 positive CV-19 cases globally and 961 731 deaths. South Africa makes up 659 656 positive CV-19 cases and 15 940 deaths. This is especially alarming, considering the increase in statistics in such a short space of time (World Health Organisation 2020).

In the midst of this surge there is a crucial need for frontline health care professionals to remain healthy and resilient. This is to ensure effective and efficient management of the myriad of CV-19 suspected/patients under investigation (PUI's) and confirmed COVID-19 patients presenting at public and private healthcare facilities. Healthcare professionals agonizing realities of CV-19 and its aftermath.

These frontline professionals are expected to be both physically and psychologically resilient in order to deliver total quality health care services. Whilst the surge of cases may be dissipating, the potential for a second surge remains, as currently being experienced in Europe.

Purpose of the Study:

The purpose of the proposed study is to explore and understand the physical, psycho-social and spiritual challenges confronting frontline health care workers at the forefront of the COVID-19 (CV-19) pandemic and that of their families and to understand what is required to facilitate their wellness amidst and post the

pandemic. The proposed study will be undertaken in the UMgungundlovu health district in the Province of KwaZulu Natal.

Purpose of the focus group:

The purpose of the focus group is to conduct an in-depth exploration of holistic wellness interventions to develop a wellness program for healthcare workers. The interventions proposed who recommended is reliant on the themes and sub-themes that emerged from the interviews conducted with the healthcare practitioners.

Warm greetings to you. You are invited to participate in my focus group discussion. Details of the study are contained below.

Introduce yourself to the participant:

My name is Mrs. Mary Shamane Subhan, I am a post graduate at student at the Durban University of Technology.

Invitation to the potential participant:

I would like you to participate in my focus group discussion to recommend and explore wellness interventions that will be supported by the available literature to design a holistic wellness program for healthcare workers. Your input regarding your experience in caring for patients as frontline healthcare workers/ supervising healthcare workers at the forefront of the pandemic/ your expertise in qualitative research and the development, implementation, monitoring and evaluation of programs will be invaluable to the development of a holistic wellness program that emerges from my study.

What is Research?

Research is a systematic inquiry into a phenomenon that uses orderly disciplines and follows a logical sequence in order to find answers to a problem or seek solutions (Polit and Beck 2012: 743).

The study that you will participate in is a qualitative study of an exploratory nature. This means that the researcher will either interview you in a face to face interview or alternatively use technological means such as telephone interviews, video calls, zoom meeting, micro-soft team meeting, interview report or an electronic or any other electronic means preferred by you. Due to the safety measures of COVID – 19 such as limited foot traffic into institutions and social distancing it is necessary to adopt technological methods. A method that best suits you will be used. You will be given the option to participate in the interview on duty time at your place of work or if you prefer for personal or professional reasons in your off duty time in home, in that case an electronic means will be used to interview you. Interview questions will be broad questions that will be based on your experiences with caring for COVID – 19 patients and patients under investigation for COVID -19. You will be given a copy of the interview guide to read (Annexure: 7).

The study aims to understand the physical psycho-social and spiritual challenges that you were faced with during the COVID – 19 pandemic. The study further seeks to explore the effects of this pandemic on you as a healthcare worker, how it impacted on your family and whether you had to deal with any stigma. Importantly the study will also seek discover how you coped and what support structures were available to you.

Focus group

Participants who are participating in the focus group interview will be invited on an MS Teams meeting on an agreed upon date after the data from the study has emerged, as the holistic interventions are reliant on the themes and sub-themes.

This letter of information will be given to you. You are allowed to discuss the study with your families and persons whom you trust.

Outline of the Procedures:

- Thank you for participating in this study.
- You have been invited to participate as you are a health care worker (doctor/ registered nurse/ enrolled nurse/ paramedic) who has been working during the COVID-19 pandemic with high risk patients within the UMgungundlovu Health District structure.
- You are in the best position to share your experiences and your valuable input will add value to the study.
- You will be involved in an interview that will take approximately 45 – 60 minutes.
- The study will initially commence with 45 participants. All participants will need to be employed in the UMgungundlovu Health District.
- Participants will be recruited from the UMgungundlovu Health District office, the UMgungundlovu Emergency Medical and Rescue Services, Grey's hospital and Northdale hospital.
- There will be 4 categories of healthcare workers which will include: doctors (N=10), registered nurses (N=15), enrolled nurses (N=10) and paramedics (N=10), this is the initial minimal number of participants.
- Potential participants will be recruited from day duty, they should be willing to participate, have worked in high risk areas or nursed COVID-19 positive patients and patients under investigation.
- Doctors, paramedics, registered nurses and enrolled nurses will be invited to participate in individual interviews.
- The managers of the different departments will assist the researcher to identify employees who have worked in COVID – 19 positive wards and departments, the patient under investigation departments and units as well as those employees who worked in high risk areas such as transporting of patients.
- The process of recruiting participants for the study will continue until data saturation occurs.
- The researcher will guide the interview and ask you broad questions to which you may respond as openly and as honestly as you can.
- The interviews will take place in your place of work on your on duty time if the situation permits or if you prefer to be interviewed in your off duty time then you will be interviewed remotely.
- Remote interviews will take place via a technological means that you prefer e.g. WhatsApp voice recordings, WhatsApp video calls, telephone interview, zoom meetings and M.S. team meetings.
- You may choose the method of interview and time that you are most comfortable with.
- The researcher will provide you with data if you need it.
- Only if it is safe to do so will you be interviewed in person (the researcher and you the participant/s will wear masks, maintain a 1.5m distance, in an environment with good ventilation).
- There is no right or wrong answers.
- Your responses will be recorded to ensure that the information that is transcribed is actually accurate.
- Only the researcher will know your name due to the interview. Your identity for analysis and reporting on the data will be kept confidential. You will be given a pseudonym and your institution encoded.
- You may withdraw from the study at any time that you so wish and there will be no repercussions.

- Should you feel emotional the researcher has the qualifications and the experience to comfort you. Arrangements has also been made with the Employee Assistance Program Practitioner who will assist with referring you appropriately (If you are working at the UMgungundlovu health district office you will be referred to the occupational health and safety manager should you need a referral).

Specific points for focus group participants:

- You have been invited to participate in the focus group due to your experience during the COVID-19 pandemic as well as your expertise in research, the development, implementation, monitoring and evaluation of healthcare programs.
- The interview will take place away from your workplace as you are from different settings.
- Furthermore the researcher is kindly requesting you to participate during your off duty time.
- The focus group interview will take place in an MS teams meeting.
- The researcher will guide the interview and ask you broad questions to which you may respond as openly and as honestly as you can.
- The meeting will be recorded and minutes will be taken by a scribe.

Risks or Discomforts to the Participant:

- The researcher foresees no risk to the participant/s or discomforts as the interview and place of interview will be arranged prior to the actual interview.
- However if the interview process evokes an emotional response from the participants the researcher will refer the affected participant/s to the institutional Employee Assistance Program practitioner/ Occupational Health manager for appropriate referral for counselling.

Explain to the participant the reasons he/she may be withdraw from the Study:

- Participation is voluntary, so the participant may withdraw at any point during the study if he/she wishes to.
- The participant may withdraw in the event of illness or if the study makes the participant uncomfortable in any way.
- Should the participant feel emotional and need to withdraw and seek assistance to deal with the emotions the researcher will assist the participant access the necessary help.
- There will be no penalty should the participant wish to withdraw.

Benefits:

- The immediate benefit will be that a participant/s/ if you has any unresolved psycho-social issues you may access help to prevent more deep seated future problems.
- The study will assist in exploring and understanding the psycho-social challenges of frontline healthcare employees.
- Recommendations will be made to strengthen support structures to assist frontline health care workers that can be applied to current and any future pandemic/ disaster.
- It will enable the researcher to gather rich data that can formally inform health care managers about the psycho-social implications of a pandemic on frontline health care workers.
- The themes and sub-themes that emerge will guide the research and the focus group to develop a holistic wellness program that will not only focus on the immediate biopsychosocial and spiritual needs of the healthcare workers but will be a program that takes to ensure long-term wellness and prevent long-term effects such as post-traumatic stress disorder.

- The study will also enable the researcher to achieve her qualification.

Remuneration: There will be no remuneration for participating in the study.

Costs of the Study:

- All costs of the study will be borne by the researcher.
- Should you require, data this will be purchased by the researcher for the you.

Anonymity:

- The names of institutions will be encoded.
- The actual names of the participant/s will not be used, participants will be given pseudonyms.
- During transcribing the names of participants will be removed from recordings.

Confidentiality:

- All raw data will be stored in a steel cupboard during data analysis.
- No unauthorised persons will have access to the raw data.
- The computer used will be password protected.
- On completion of the study the electronic data will be deleted from the computer.
- All hard copies of data and recordings will be stored for a period of 5 years and then shredded and permanently deleted from the electronic device used.

Results:

- All journal articles arising from the study will be shared with the respective managers.
- A summary of the findings of the study will also be made available.
- Should you require details of the research report a copy will be available for you to read.

Research-related Injury:

- This is a non-experimental study so there will be no physical harm to the participants.
- Confidentiality and anonymity will be maintained, psychological harm will be prevented by respecting the participants right to privacy and autonomy.
- The researcher will use good communication skills to ensure that she builds rapport with the participants and develop a relationship of trust.
- Should the participant become emotional during the interview, the participant will be offered support.

Storage of all electronic and hard copies including tape recordings:

- Hard copies such as consent forms and field notes, taped recording will be stored in a steel cupboard during the analysis of the data.
- Data on the researcher's computer will be password protected, hence no unauthorized persons will have access to this data.
- Only the researcher will have access to your personal details and this will not be revealed to anyone.
- Raw data will be stored in a steel cupboard under lock and key for a period of 5 years.

- On completion of the fifth year the hard copies of all raw data related to the study will be destroyed through a process of shredding and electronic copies will be permanently deleted.

Persons to contact in the Event of Any Problems or Queries:

- Should there be any problem please contact the researcher: Mrs. M.S. Subhan:
Cell no.: 084 555 9938
E-mail: marysubhan72@gmail.com
- Should you still not be satisfied please contact my research supervisor: Professor: R. Bhgawan
Office number: 031 3173219
E-mail: bhagwanr@dut.ac.za
- Details of my co-supervisor are: Gr. S. Gulman
Office number: 031 373 2807
e-mail: shanazgulman@dut.ac.za
- IREC administrator: Ms. L. Deonarian
Office number: 031 373 290
E-mail: lavishad@dut.ac.za
- Complaints may be reported to: The Director: Research and Postgraduate Support:
Dr. Liganiso
Office number: 031 373 2577
E-mail: researchdirector@dut.ac.za

General:

- The researcher will herself approach potential participants and attempt to recruit them for the study.
- Data will be collected until data saturation occurs this means that once the researcher finds that participants are giving her the same information over and over, she will stop recruiting participants and collecting data.
- I would greatly appreciate it if you participated in my study, although participation is voluntary.
- All letters of information and consent forms will be in English.
- The interview will be in English as the official medium of communication in the Department of Health is English.
- You will be given a copy of this letter of information.

Thank you



CONSENT

Full Title of the Study: Health care practitioners within the milieu of the COVID-19 pandemic: A holistic response to enable wellness

Names of Researcher/s: Mrs. M.S. Subhan

Statement of Agreement to Participate in the Research Study:

- I hereby confirm that I have been informed by the researcher, Mrs. M. S. Subhan), about the nature, conduct, benefits and risks of this study - Research Ethics Clearance Number, _____.
- I have also received, read and understood the above written information (Participant Letter of Information: Appendix: 5) regarding the study.
- I am aware that the results of the study, including personal details regarding my sex, age, date of birth, initials and diagnosis will be anonymously processed into a study report.
- In view of the requirements of research, I agree that the data collected during this study can be processed in a computerized system by the researcher.
- I may, at any stage, without prejudice, withdraw my consent and participation in the study.
- I have had sufficient opportunity to ask questions and (of my own free will) declare myself prepared to participate in the study.
- I understand that significant new findings developed during the course of this research which may relate to my participation will be made available to me.

_____	_____	_____	_____	_____
Full Name of Participant Thumbprint	Date	Time	Signature	/ Right

I, Mrs. Mary Shamane Subhan confirm that the above participant has been fully informed about the nature, conduct and risks of the above study.

_____	_____	_____
Full Name of Researcher	Date	Signature
_____	_____	_____
Full Name of Witness (If applicable)	Date	Signature
_____	_____	_____
Full Name of Legal Guardian (If applicable)	Date	Signature

INTERVIEW GUIDE

Please cross [x] next to the most appropriate box provided

SECTION ADemographic details:

1. Gender

M

F

2. Age

20 – 30

☐

31 – 40

☐

41 – 50

☐

51 – 60

☐

61 – 65

☐

3. Ethnicity

African

Coloured

Indian

White

Other (Specify):

4. Qualification:

Doctor of Medicine:

Consultant

☐

Registrar

☐

Intern

☐

Community Service

☐

Other: Specify

Registered Nurse: Degree	☐
Registered Nurse: Diploma	☐
Registered Nurse (clinical nurse)	☐
Registered Nurse (management)	☐
Other: Specify	
Enrolled Nurse:	☐
Paramedic: Degree	☐
Paramedic: Diploma	☐
Other: Specify	
5. Number of years of experience:	
0 – 1 year	☐
2 – 5 years	☐
6 – 10 years	☐
11 – 15 years	☐
16 – 20 years	☐
21 – 25 years	☐

25 – 30 years ☐

31 – 35 years ☐

➤ 35 years ☐

6. Identify the ward/department/unit that you were allocated to work in during the pandemic (you may choose more than 1 option if you were moved around the clinical setting).

Intensive care unit ☐

Emergency department ☐

Outpatient department ☐

Flu tent ☐

Occupational health clinic ☐

Medical/surgical ward ☐

Theatre ☐

Tracheostomy care ☐

Patient under investigation (PUI ward). ☐

Isolation ward ☐

COVID-19 ward (Adult) ☐

COVID-19 ward (Paediatric) ☐

Paediatric ward ☐

Maternity (Labour ward, ante-natal, nursery, post-natal) ☐

Other: Specify

SECTION B

INTERVIEW QUESTIONS

7. Can you share with me how COVID - 19 was experienced within your work environment?
8. Please share with me the training that you received and how the institution was prepared for the COVID-19 Pandemic?
9. Please tell me about how your interaction and care of patients under investigation and COVID – 19 positive patients affected you physically, psychologically, emotionally, spiritually and socially?
10. Can you share with me how your work with COVID - 19 patients affected your family and family life?
11. What were some of the ways in which this experience impacted on work relationships?
12. Was there any experience of stigma due to your frontline work with the virus and if so how did it affect you?

13. What were some of the personal ways in which you coped during this time?
14. What were some of the interventions put in place at work to support you personally and emotionally?
15. Can you share with me what possible support interventions and systems can be put in place to support you and your family?
16. How did you cope with stressful circumstances previously?
17. Do you feel that you still require psychological or spiritual counselling?
18. Should there be another surge or a pandemic of a different nature how would you feel and will you do anything differently?

**CONFIDENTIALITY AND NON – DISCLOSURE AGREEMENT
BETWEEN MRS. M.S. SUBHAN AND MS. N. [REDACTED]**

I, Ms. N. Munshi hereby agree to transcribe the recorded data provided to me by Mrs. M.S. Subhan. I also agree to the conditions hereunder:

- I will keep all the data that I listen to and transcribe confidential.
- I will listen to the recordings in a private room where I am alone.
- I will not discuss any of the information that I hear and transcribe with any person irrespective of my relationship with them.
- Once the data is transcribed I will submit the transcripts to the researcher herself.
- I will delete all electronic traces of the data on my electronic devices as soon as I am certain that the researcher has received all the transcripts.
- I will not make any hard copies of the transcripts.
- This is a business relationship and I will receive payment for transcribing the data.

Researcher: Mrs. M.S. Subhan

Transcriber: Ms [REDACTED]

30/1/2022.

Date:

30/01/2022

Date

MS PREM COOPOO

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13 July 2024

To: Mrs Mary Subhan
Durban University of
Technology
KwaZulu-Natal.

Dear Mary

EDITING OF PhD THESIS

This confirms that I edited all 5 chapters (288 pages) of your PhD thesis. I hereby also confirm that I submitted the completed work to you, both a tracked version and a clean copy, on 9 and 10 July 2024.

Yours Sincerely,

Ms Prem Coopoo

FOCUS GROUP DISCUSSION GUIDE

1. "Can you share with me what possible support interventions and systems that can be put in place for healthcare practitioners"?
2. Can you share with me holistic physical (biological) interventions that healthcare organizations may implement to improve the physical wellness of healthcare workers?
 - 2.1 Please share with me self-directed holistic physical interventions that healthcare workers may adopt to improve and maintain their physical health and that of their families?
3. Can you share with me what psychological interventions healthcare organizations may implement in the workplace to better support the psychological well-being of healthcare workers?
 - 3.1 Please share with me self-directed holistic psychological interventions that healthcare workers may adopt to improve and maintain their and their families' psychological well-being?
4. Can you share with me what social interventions healthcare organizations may encourage to promote social wellness of employees?
 - 4.1 Please share with me self-directed holistic social interventions that healthcare workers may adopt to improve and maintain their spiritual health and that of their families?
5. Can you share with me what spiritual interventions healthcare organizations may implement in the workplace to better support the social well-being of healthcare workers?
 - 5.1 Please share with me self-directed holistic spiritual interventions that healthcare workers may adopt to improve and maintain their spiritual well-being and that of their families?

Thank you for your participation

CONFIDENTIALITY AND NON – DISCLOSURE AGREEMENT

BETWEEN MRS. M.S. SUBHAN AND DR. S. [REDACTED]

I, Dr. S. [REDACTED] (independent coder) hereby agree to analyze the data on the electronic transcripts provided to me by Mrs. M.S. Subhan. I also agree to the conditions hereunder:

- I will keep all the data that I read and analyze confidential.
- I will read the transcripts and analyze in a private room where I am alone.
- I will not discuss any of the information that I read and analyze with any person irrespective of my relationship with them.
- Once the data is analyzed I will submit the analysis to the researcher.
- I will delete all electronic traces of the data on my electronic devices.
- I will not make any hard copies of the transcripts.
- This is a business and professional relationship.
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1/03/2022

1/03/2022

Annexure: 19

Validation of holistic wellness programme (Academic)

Kindly complete the questionnaire following the perusal and assessment of the analysis of data and holistic wellness programme and answer the questions below.

Item no.	Item	Agree	Disagree
1.	Is the wellness programme holistic in nature?	x	
2.	Were the interventions from the healthcare practitioner interviews accurately captured?	x	
3.	Were the interventions from the focus group accurately captured?	x	
4.	Was the data analyzed accurately: Themes (4-physical, psychological, social and spiritual) and sub-themes.	x	
5.	Are the interventions clearly stated?	x	
6.	Is there supporting literature for the interventions.	x	
7.	Will it be feasible to apply these interventions in terms of cost, acceptability and time?	x	
8.	Are the headings appropriate as per the themes identified i.e. category, interventions and health outcomes (the top of each page).	x	
	If no to the above, please suggest possible headings:		
9.	Is the programme clearly laid out	x	
10.	Is the programme user friendly.	x	
11.	Are you satisfied that the programme has undergone a scientific rigorous process	x	
	Final comment: • Data analysis validated • Programme validated		

Your participation is greatly appreciated.