

**EXPLORING BURNOUT AMONG FRONTLINE HEALTHCARE WORKERS
DURING COVID-19 PANDEMIC IN MTHATHA, EASTERN CAPE, SOUTH
AFRICA**

NOLUYOLO FATHUSE
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A dissertation submitted to the College of Health Sciences, University of KwaZulu-Natal,
Howard College, in partial-fulfilment of the requirements for the degree of Master of Public
Health

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2023

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A dissertation by Manuscripts submitted to the Discipline of Public Health Medicine, College of Health Sciences, University of KwaZulu-Natal in partial-fulfilment of the academic requirements for the Master in Public Health.

This is to attest that the contents outlined in this dissertation are the original research work done and reported by the author (Noluyolo Fathuse). The research work detailed in this dissertation has not been previously submitted to any tertiary institution for award of a degree or diploma. The use of other researchers/ scientists' work in the text has been acknowledged accordingly.

As the candidate's supervisors, we have approved this dissertation for submission

Supervisor

Signed:



Name: Professor Themba Ginindza

Date: 23/08/23

Co-Supervisor

Signed:



Name: Dr Khumbulani Hlongwana

Date 23/08/23

Format of dissertation

This dissertation is presented in a manuscript format, which includes a published journal article that emanated from the research project.

Research Approval

Name of ethics committee	Date	Reference number
Biomedical Research Ethics Committee (BREC)	03 March 2022	BREC00003441/2021

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DECLARATION 1: PLAGIARISM

I, Noluyolo Fathuse, declare that:

(i) The research reported in this dissertation, except where otherwise indicated, is my original work.

(ii) This dissertation has not been submitted for any degree or examination at any other university.

(iii) This dissertation does not contain other persons' data, pictures, graphs or other information, unless specifically acknowledged as being sourced from other persons.

(iv) This dissertation does not contain other persons' writing, unless specifically acknowledged as being sourced from other researchers. Where other written sources have been quoted, then:

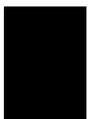
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A solid black rectangular box used to redact the author's signature.

Noluyolo Fathuse

22 Aug 2023

DECLARATION 2: PUBLICATIONS AND MANUSCRIPTS

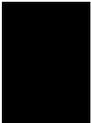
This dissertation contains a published article and the contribution I made to the manuscript is presented here.

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Author Contributions

I designed the study, collected data, and compiled and wrote the manuscript. The supervisors Prof T G Ginindza and Dr K W Hlongwana gave guidance on the design and critically reviewed and gave necessary input on all the manuscript drafts.

Signed:



Noluyolo Fathuse

22 Aug 2023

DEDICATION

I dedicate this work to all the healthcare workers who were at the frontline of the battle with the COVID-19 pandemic. I salute you-also remembering those who lost their lives while serving others.

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- To Prof Ginindza and Dr Hlongwana, my supervisors, thank you for your outstanding supervision, support, and encouragement throughout the course of this study. You were consistently available and willing to help me. Every critical comment was a lesson for me. May the good Lord keep you and cause an increase so that you continue supporting many more students and novice researchers like myself. I boast about how God has blessed with such great supervisors.
- To my husband, thank you for your support. From day one, through all the ups and downs, you were there, cheering me on. You carried me in prayer, and this is the evidence. Thank you, you are a great blessing, my love, and I thank God for you.
- To the COVID-19 pandemic frontline Healthcare Workers who participated in this research study, thank you for your willingness to share your lived experiences with me and make this a possibility. May you continue serving with good health and safety.
- Lastly, to Mthatha Regional Hospital management, thank you for allowing me to conduct my research study at your facility.

Abstract

Introduction: Burnout prevalence among healthcare workers (HCW) is high and has a negative impact on individuals' health, patient care and, ultimately, organizational efficiency. Burnout is a state of emotional exhaustion, depersonalization, and a decreased sense of personal accomplishment (1). While the 2019 Coronavirus (COVID-19) exacerbated the burnout prevalence among HCWs, limited studies have explored this phenomenon using qualitative methodologies in the Eastern Cape Province and South Africa generally. This study explored how frontline HCWs experienced burnout during the COVID-19 pandemic in Mthatha Regional Hospital (MRH).

Methods: Ten face-to-face in-depth interviews were conducted with non-specialized medical doctors and nurses who directly cared for COVID-19-infected patients during the pandemic in MRH. In-depth interviews were digitally recorded and transcribed verbatim. Data were managed through NVIVO 12 software before being thematically analyzed using Colaizzi's analysis method.

Results: Four main themes emerged from the analysis. These themes were burnout manifestation (emotional strain, detachment and irritability, uncertainty-induced fear and anxiety, physical exhaustion, yet, low job accomplishment, dread and professional responsibility), precursors of burnout (occupational exposure to high mortality, staff shortages, elongated high patient volume and workload, disease uncertainties and consistent feeling of grief), alleviating factors of burnout (time off work, psychologist intervention, periods of low infection rate and additional staff), and the last theme was every cloud has a silver lining (improved infection prevention and control (IPC) measures, learning to be more empathetic, the passion remains and confidence grows).

Conclusion: The COVID-19 pandemic brought about a rapid change in the work environment of healthcare workers who are the backbone of efficient healthcare services, thereby rendering them vulnerable to increased burnout risks. This study is expected to provide comprehensive information on burnout, its predisposing factors, its manifestations, and alleviating factors. And also, these findings are anticipated to contribute to the strategic development and strengthening of welfare policies to promote and protect frontline HCWs wellbeing and well-functioning at work during the COVID-19 pandemic and future pandemics.

Keywords: Burnout; frontline healthcare workers; COVID-19; pandemic; Mthatha

ACRONYMS AND ABBREVIATIONS

BREC:	Biomedical Research Ethics Committee
CBI:	Copenhagen Burnout Inventory
CIDERU:	Cancer & Infectious Diseases Epidemiology Research Unit (CIDERU)
COVID-19:	Coronavirus Disease 2019
DPSA:	Department of Public Service and Administration
ED:	Emergency Department
HCW:	Healthcare worker
ICD:	International Classification of diseases
IPC:	Infection prevention and control
KZN	KwaZulu-Natal
MBI:	Maslach Burnout Inventory
MERS:	Middle East Respiratory Syndrome
MRH:	Mthatha Regional Hospital
PPE:	Personal protective equipment
SSA:	Sub-Saharan Africa
UKZN:	University of KwaZulu- Natal
WHO:	World Health Organization

DEFINITION OF TERMS

Burnout: It is a psychological response syndrome which consists of emotional exhaustion, depersonalization and decreased personal accomplishment.

Frontline healthcare workers: In the context of this study, healthcare workers refer to those who worked in direct contact with COVID-19-infected patients.

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CHAPTER ONE

INTRODUCTION AND RATIONALE FOR THE STUDY

This chapter presents the background information, problem statement, study justification and the purpose of the study. It also covers the study aim, objectives, and hypotheses, as well as the summary of the chapters.

1.1 Background information

There is a high prevalence of burnout among healthcare workers (HCWs), globally (1-3). Studies have shown that burnout prevalence, globally varies between 18-82%, being highest in nurses, doctors and other HCWs, respectively (4-6). This variation is owed to the fact that there are different measuring tools for the assessment of burnout (7), such as the Maslach Burnout Inventory (MBI) and Copenhagen Burnout Inventory (CBI) (8). Even though most studies use the Maslach Burnout Inventory (MBI), the versions are modified (7). In the United States of America, it is estimated that more than 50% of physicians have burnout (9), with China reporting higher figures (66.5-88%) (2). Burnout on HCWs can be caused by a range of factors, including the nature of the job itself, the workplace environment, and individual characteristics (10). Furthermore, consistent commitment and exposure to heavy workloads, dealing with people's problems that need solutions in a non-conducive environment causes one to be emotionally depleted overtime, to a point where they cannot give of themselves anymore (1, 11, 12). Burnout affects both high income countries and low-middle income countries, alike (2).

In sub-Saharan Africa (SSA), the prevalence of burnout among HCWs ranges between 40-80% (2). In this context, nurses are more prone to experiencing burnout compared to other HCW counterparts (2). This is associated with low wages, nursing hierarchy, high workload, personnel shortages, and lack of support (2). It has also been found that female HCWs, HCWs who are of young age, and those in resource-scarce settings are also prone to developing burnout (2). Notably, resource constraints and poor infrastructure is not a phenomenon unique to only nurses, but pervasive in SSA healthcare system generally and lead to burnout in the region (1, 2).

Burnout among HCWs is not a new problem, as the 2013 cross-sectional survey involving 132 district-level doctors from 27 facilities around the Cape Town Metropolitan Municipality in the Western Cape revealed that 73% of medical doctors had burnout (3, 13). The leading causes included a lack of organizational support, inadequate salaries, and dealing with work crisis (3). These are the factors that also predispose nurses to the high prevalence of burnout (2) however, this study is not comparable with studies that involve nurses as only medical doctors were recruited. In KwaZulu-Natal (KZN), a survey done in 2020 using the MBI's three dimensions revealed that 59% of doctors experienced burnout in a regional academic training hospitals (7). The major contributing factors noted were a lack of hospital resources and poor infrastructure, lack of clinical support from supervisors, poor working conditions, staff shortages, working overtime, and high workload (7). The difference in burnout prevalence between KwaZulu-Natal and Western Cape may be a result of the non-similar study settings, and the fact that for the Western Cape study, majority of participants were community service doctors. In KZN there are no community service doctors allocated in regional academic institutions thus making the studies non-comparable (7, 13). The overarching burnout risk factors are consistent with the notion of the World Health Organization (WHO) that burnout is one of the factors influencing the health status of professionals who experience poorly managed chronic workplace stress (14).

The 2019 coronavirus disease (COVID-19) pandemic created conducive conditions for burnout to thrive among HCWs, given substantive changes in their usual practice and the delivery of services to patients (15). Being at the frontline of COVID-19 treatment and management exposed them to significant levels of job-related stress (16). The increased workload and demand compounded a pre-existing challenge of scarce resources and a limited workforce. HCWs have been at the highest risk of infection and infecting family members, experiencing the trauma of losing not only patients but also loved ones and colleagues to an incurable virus that is viciously spreading with high mortality and morbidity rates (16-18). In these unique circumstances, healthcare workers moved from their familiar areas of clinical and nursing specialties to assist in managing patients with COVID-19 infection (19) and had to contend with ethically and emotionally wrenching decisions of allocating scarce resources (18, 19). These workers also lived in isolation for fear of infecting those close to them. These factors have caused significant emotional exhaustion, physical exhaustion, anxiety, depression and powerlessness in HCWs' ability to manage their patients, thereby rendering them vulnerable to burnout (16-21). The current evidence suggests that COVID-19 frontline HCWs in

designated COVID-19 wards were exposed to extraordinary stress (22-24), thereby rendering them vulnerable to burnout.

Frontline HCWs' health and safety are of the utmost importance, given their role in patient care, more so in such time as the COVID-19 pandemic (24). Few studies conducted during the pandemic showed that HCWs directly caring for COVID-19-infected patients suffered a myriad of mental, emotional, and physical challenges, including burnout, and these studies have, to some extent, been associated with gender, age, profession, marital status and level of experience (15, 16, 24). It is therefore important to understand, in depth, how HCWs in Mthatha Regional Hospital (MRH) experienced burnout during the COVID-19 pandemic with a view to guide the development of interventional support strategies for future pandemics (21).

1.2 Problem statement

Healthcare workers are often faced with extremely stressful and emotionally demanding work situations (6). The high rate of COVID-19 infections amidst the prevalent healthcare system challenges in South Africa (16, 25), including human resource constraints, poor equipment and infrastructure, exert significant pressure on HCWs, emotionally and psychologically, predisposing them to burnout (1, 26).

Burnout was first described by Freuderberger in 1974 as he observed symptoms of fatigue, exhaustion, recurrent headaches, insomnia, gastrointestinal problems and shortness of breath, and behavioural changes, such as anger, frustration, depersonalization, use of substances to induce sleep, and depression amongst volunteers in emotionally and personally demanding workplaces (27). According to Maslach, burnout is a syndrome of emotional exhaustion, depersonalization, and decreased personal accomplishment occurring in those who do "people work" (11). There are several definitions of burnout in literature, however, in literature there seems to be a universal agreement on the three-dimensional nature of the concept (17, 27). Despite its impact on those affected, as shown by research, and its use on everyday life, burnout is still not widely accepted by scientists (27). There are arguments of what its symptoms actually are, and whether it is a mental disorder or just a terminology in the field of psychology (27). However, according to the International Classification of Diseases by the World Health Organization (WHO), burnout is classified as one of the factors

influencing the health status of professionals who experience poorly managed chronic workplace stress (14).

Literature shows that HCW burnout negatively affects, not only the individual HCW, but also the patient care outcome and ultimately the healthcare system (11). As such, burnout has been associated with factors such as absenteeism, poor job commitment, job dissatisfaction, and medical errors that lead to litigations. Similarly, HCW burnout has been associated with somatic symptoms, such as body aches, frequent headaches and insomnia and increased use and abuse of substances among HCWs, poor interpersonal relations, and poor quality of life of the HCW (11, 19, 25, 28).

Despite the undesirable effects of burnout, efforts to find studies exploring HCW burnout in the Eastern Cape, Mthatha both pre-COVID-19 era and during the pandemic, were unsuccessful. To the best of the researcher's knowledge, most HCW burnout studies in South Africa were conducted in the Western Cape, using quantitative designs, with only one national survey on doctors, which had a small sample size of 402, a 33% response rate (3, 7). In a scoping review, to inform COVID-19 provincial guidelines, Robertson et al. discovered that during the COVID-19 pandemic and in previous similar viral outbreaks, HCWs had suffered high levels of burnout and mental conditions, such as anxiety, depression, and stress (16). While Dawood et al., in the latter part of 2020, assessed the mental health impact of COVID-19 on KwaZulu-Natal HCWs, predominantly male doctors. In this study, they discovered that the HCWs experienced high levels of anxiety, traumatic stress, and depression and felt uncared for (29). They also admitted that ideally, such studies are best conducted qualitatively to capture the individual experiences in depth, however, due to COVID-19 pandemic-related restrictions, they had to conduct the study with quantitative methods.

It is important to understand in depth the phenomenon of burnout through the individual HCW's narratives, as this will guide the development of targeted strategies to assist those affected and to also prevent those at risk (18, 21) for future pandemics because HCWs are the healthcare system's backbone and frontline soldiers in the fight against the COVID-19 pandemic (16, 25). This will not only be for the physical and psychological well-being of individual HCWs, but will also improve the quality of care rendered to patients and their families (4, 21). This study, therefore, aimed to explore the manifestation of burnout among frontline healthcare workers during the COVID-19 outbreak, through semi-structured interviews, as efforts to find studies on HCW burnout and HCW burnout during the pandemic in Mthatha Regional Hospital, Mthatha, Eastern Cape, were unsuccessful.

1.3 Rationale for the study

The purpose of the study was to explore how frontline healthcare worker experienced burnout during the COVID-19 pandemic in Mthatha Regional Hospital, in order to provide deeper insights into how the HCWs experienced the phenomenon, including the factors that contributed to their experience. The study provides strategic information for policymakers and managers on developing and strengthening welfare policies to promote and protect frontline HCWs' well-being and work functioning, especially for future pandemics. The findings of this study add to the body of knowledge about burnout in HCWs who work under extremely stressful conditions, managing and treating COVID-19-infected patients. In addition, from a methodological point of view, this study provides deeper insights from the participants' perspectives, something that quantitative studies barely offer.

1.4 Overall research question

How have frontline healthcare workers experienced burnout during the COVID-19 pandemic in Mthatha Regional Hospital?

1.5 Aim of the study

This study aims to explore how frontline healthcare workers deployed to COVID-19 wards experienced burnout during the COVID-19 pandemic in Mthatha Regional Hospital.

1.6 Specific research objectives

- To explore the experiences of burnout among healthcare workers deployed to COVID-19 wards in Mthatha Regional Hospital.
- To understand how changes in the nature of work for HCWs deployed to COVID-19 wards facilitated HCW burnout in Mthatha Regional Hospital.

- To analyse the emotional effects of treating patients with COVID-19 on HCWs who were deployed to COVID-19 wards in Mthatha Regional Hospital.

1.7 Dissertation overview

This dissertation is structured into five chapters.

Chapter 1: Provides an overview of the study, the background, the problem statement, the study rationale, specific aims and objectives, and the dissertation outline.

Chapter 2: This chapter presents the literature review on the burnout phenomenon, its evolution and how it has affected HCWs pre- and during COVID-19 era.

Chapter 3: This chapter provides an overview of the methodology that was employed in carrying out this research study.

Chapter 4: Presented in the chapter is an article published on 10 April 2023 in the International Journal of Environmental Research and Public Health (IJERPH) (2023) (20) (5451). <https://doi.org/10.3390/ijerph20085451>.

Chapter 5: Provided in this chapter is an integrative synthesis of study results, including the overall conclusions, implications, strengths and limitations of the study, as well as recommendations based on the research findings.

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CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The scope of this review includes literature on the burnout phenomenon, including how the conceptual definition has evolved since its inception in the 1970s. It also provides a contrast between HCW burnout before and during the COVID-19 pandemic, highlighting predisposing factors of burnout, burnout burden on HCWs, its consequences on HCWs and possible reduction strategies. A literature search was done in the month of April 2021, using Google Scholar, Ebsco host and Pub Med databases. The key words used in the search were "Burnout", "Burnout on healthcare workers", "Burnout during COVID-19", "Causes of burnout", "Experiences of Healthcare worker during COVID-19" and "Burnout in South Africa".

2.2 Evolution of burnout phenomenon

The pioneer of the burnout concept is Freudenberger, a German psychologist, who first described it in 1974, using a qualitative approach (1-3). He did this in an attempt to explain a particular observation he made of the mental state and experiences that he and his colleagues had at their workplace, a state of being "burned-out" as he puts it (2). He observed both physical symptoms, including fatigue, exhaustion, recurrent headaches, insomnia, gastrointestinal problems and shortness of breath, and behavioral changes, such as anger, frustration, depersonalization, use of substances to induce sleep, and depression (2). The context of these observations was in a free clinic in New York City, which was a demanding work place, hence he presumed that workplaces that are emotionally demanding, demanding of personal involvement, self-motivation, exhausting and underpaying are a breeding ground for burnout, with healthcare and education sectors being the primary candidates (2).

Around the same period (1970's), Maslach et al (2, 3) published psychological and medical studies which delved deeper into understanding the phenomenon of burnout (2, 3). They conducted research through interviews, observations and surveys, which included people working in criminal justice, mental health and education (4). She described burnout as a psychological syndrome of emotional exhaustion, depersonalization, and decreased level of personal accomplishment (4-6). To date,

Maslach's work has become an authority in the field of burnout (2).

Maslach believed that it is those who work with people consistently who are at the highest risk of burnout. This is because they are constantly bombarded with people's problems, for which solutions sometimes are not easy to find (4). Maslach focused on measuring burnout using three dimensions; exhaustion, depersonalization, and decreased personal accomplishment (2, 4, 5). To measure these, she and her colleague developed Maslach Burnout Inventory (MBI), the most popular practical tool for quantitatively measuring burnout across a spectrum of occupations, the teachers, students, military workers, police officers and soccer players (2, 3).

Over the years, this phenomenon has been extensively researched to produce a deeper understanding of it (7). Today it is researched and assessed over a wide range of fields of work that have to do with human services, including medical staff, nurses, social workers and teachers and other human-service workers (1, 2), as well as on the people in the finance sector (2, 7). However, Heinemann and Heinemann argue that all these years invested in researching this phenomenon have made no significant contribution, but continue to produce circular results. This is because they argue that the concepts used to identify those with burnout are debatable, and the inventories used measure the same concepts (2). Kristine et al also believed that these dimensions should be studied extensively and separately because they are distinct (1). Despite all these varying views, the WHO's International Classification stipulates that burnout is one of the factors influencing the health status of professionals who experience poorly managed chronic workplace stress (8).

The burnout phenomenon is popular and of serious concern in the human service industry, some scientists still argue over what burnout actually is, its etiology, symptoms, psychopathology, and if it actually is a mental disorder, on its own (2). As a result of these critical views, burnout has not been accepted as a definite diagnosis in the field of psychiatry and psychology (2), and it is not classified as a medical condition either in the international classification of diseases ICD-11, but only as one of the factors influencing the health status of professionals who experience poorly managed chronic workplace stress (2, 8, 9). In a few countries, like Netherlands and Sweden, it is recognised as an occupational disease (2, 10).

There are several definitions of burnout in literature, however, there seems to be a universal agreement on the three-dimensional nature of the concept, including emotional exhaustion,

depersonalization, and decreased self-accomplishment. Freudenberg defines it as a state of debilitating fatigue from prolonged hard work, more than one's capacity, focusing more on clients than on oneself and pressure from fellow workers (2, 3).

2.3 Dimensions of burnout

For this section, the dimensions of burnout discussed are those that are widely accepted in the literature as a general frame of reference, namely: emotional exhaustion, depersonalization and decreased personal achievement. These are taken from Maslach's burnout definition, who argued that these make up a psychological syndrome that may occur on those who do people work (4, 5).

2.3.1 Emotional exhaustion

Emotional exhaustion is a point where a worker cannot give of themselves psychologically (4, 5). Maslach et al describe this state as being "emotionally depleted (5). According to their MBI 7-point scale, if a participant scored high on this aspect, showing more signs of emotional exhaustion, then they are assessed as having a high degree of burnout. This dimension arises from individual stress due to chronic emotional and physical fatigue and is directly associated with work overload and social conflict (11).

2.3.2 Depersonalization

Depersonalization is when a worker develops negative and callous attitudes towards their client, viewing them as objects rather than humans; hence it is synonymously called dehumanization (4, 5). Also, depersonalization arises from an interpersonal feelings dimension (11). This attitude of cynicism is often observed in those with emotional exhaustion (5). This would explain why some literature suggests that this dimension is a defence mechanism for a worker who cannot handle any more of what will take away from their emotional stores (12). This dimension reduces the level of professionalism (13).

To some HCWs, depersonalization has been viewed as unacceptable, that one could possibly have such feelings towards their clients (1). In Denmark, on a pilot study for the recent CBI, respondents were first given the MBI and were requested to make comments on it (1). The respondents had some negative criticism about the tool, but one of them was that they found the questions under depersonalization unacceptable (1). To some, it was infuriating to even have a suggestion that personnel would treat clients and feel like they were impersonal objects (1).

2.3.3 Decreased personal accomplishment

Decreased personal accomplishment refers to a case where a worker becomes self-critical about their contribution to their work and dissatisfied with their accomplishment, particularly in dealing with their clients (4, 5). They evaluate themselves negatively and feel less successful in their duties (5). A worker with decreased personal accomplishment will often feel like they cannot complete tasks, or they are inefficient in their duties (13). This dimension is a result of self-evaluation, and it is a result of the challenges of resource constraints (11).

2.4 Burnout in healthcare workers

Due to the nature of their work, HCWs are at increased risk of burnout (14), as shown by the global burnout prevalence on HCWs, which also has negative effects on overall health systems (14-17). Burnout in HCWs occurs when their performance at work is adversely affected and extending to their personal relations (16). Literature shows that, in 2020, burnout prevalence among HCWs varied (18% to 82%) widely across the globe (15), but was highest among nurses (10), and followed by doctors (16). This was substantial increase from the 30- 40% reported in 1984 (7). Notably, this prevalence also varied by speciality and the working conditions (16).

Those working in oncology services are at the substantially higher risk of experiencing burnout (18). This is because they are constantly working in emotionally demanding conditions where they are taking care of grieving patients and relatives with critically ill patients, some in palliation, and often find themselves having to make ethically complex decisions concerning those under their care (10). A meta-analysis by Fuente et al. (10), which included almost 10 000 oncology nurses, revealed a 30-35% prevalence of emotional exhaustion and decreased personal accomplishment, while 15% was of depersonalization. This analysis was on selected quantitative studies, which used the MBI to measure burnout. These results concur with Maslach et al's (5) argument that people who constantly work in chronically stressful environments are at great risk of being emotionally drained, leading to burnout (5).

In Malawi, a cross-sectional study that recruited 101 HCWs from obstetrics and gynecology and postnatal departments, of which majority were nurses and only 14% were physicians, there were reports of significant levels of burnout; 72%, 43%, 74% for emotional exhaustion, depersonalization, and reduced personal accomplishment, respectively (16). About 76% of the Doctors who were

working at district-level hospitals in Cape Town Metropolitan Municipality had significant burnout with more than half of them indicating emotional exhaustion (53%), depersonalization (64%) and decreased personal accomplishment (43%) on the MBI scale (19). Findings of a qualitative study done in America (20) where 21 primary healthcare doctors, three primary healthcare nurses and two primary healthcare doctor assistants reported burnout, which they attributed to heavy workload, and one of the participants went on to report that the load of work became impossible and overwhelming and that it sometimes spills over to their leisure time (20). Shortly before the pandemic, in 2020, a survey conducted in KwaZulu-Natal, using the three dimensions of Maslach's Burnout Inventory (MBI), revealed a burnout prevalence of 59% among medical doctors (11). Lack of hospital resources, poor infrastructure, lack of clinical support from supervisors, poor working conditions, staff shortages, working overtime, high workload, lack of organizational support, inadequate salaries, dealing with crises at work, feeling undervalued, demoralised and the mismatch of responsibilities are pervasive among the HCWs and are important contributors to burnout (11, 17, 21, 22).

2.5 Predisposing factors of burnout on healthcare workers

Human service work is naturally challenging, with professionals in this field having to invest themselves emotionally in their service, looking for solutions to uneasy and daunting client problems (5, 10). Being a HCW particularly intensifies this level of risk, due to the nature of the job (14). The critical component that contributes to high burnout risk level is long-term working under such circumstances (5). This shows that the state of burnout gradually develops from the point of emotional exhaustion until one becomes cynical (7).

2.5.1 Organizational

Working in non-conducive environments predisposes HCWs to burnout. These common organizational factors are role ambiguity, role conflict, stressful events, heavy workload and pressure, as well as job control (12, 23).

Heavy workload seems to be one of the dominant contributory factors causing burnout (24). Increasing work that one cannot keep up with is a risk of burnout (20). In a focused group discussion conducted with primary healthcare practitioners in the urban and peri urban areas of Massachusetts in America to identify burnout contributory factors, doctors described their workloads as being "unrealistic", "overwhelming", and "undoable" (20). Similarly, doctors working in a primary

healthcare setting in South Africa ranked heavy workload as one of the leading causes of burnout, and even felt that working long hours gave them low sense of personal accomplishment as their productivity declined over time (19).

Feelings of being unappreciated and inadequately remunerated contributes to the development of burnout (15). In a qualitative study conducted in the Eastern Cape, a focus group of social workers from the Department of Social Development and Welfare gave a picture of an extremely frustrating environment that they work in, in which they lacked management support and motivation, with inadequate remuneration (25). These social workers further reported that their experiences caused them to have feelings of regret about their job and felt as though the system had failed them, which resulted in work-related stress and burnout (25).

2.5.2 Individual

Workers who are extremely dedicated and over-committed to their work are at the greatest risk of developing burnout (5, 13). This is because high level of dedication tends to steer their attention away from focusing on their personal wellness and health needs . As admirable as these qualities are, those who are perfectionists and with an intense sense of responsibility turn to disproportionately invest their time and energy in caring for patients, thereby neglecting their personal well-being. This puts them at great risk for burnout (13). Individuals with anxiety have also been reported to be more prone to burnout, particularly experiencing the emotional exhaustion aspect of burnout (11).

2.5.3 Demographics

Demographic characteristics such as age, gender, marital status, number of children, years of job experience and job position have been associated with burnout (24). Having children and being married were found to be predictors of decreased personal accomplishment and depersonalization (16, 26). This could be attributable to the fact that these workers have domestic duties that they also need to fulfil efficiently. This adds a stretch to their working capacity (16, 26). However, in a cross-sectional study of nurses working in a mental institution, there was no association found between burnout and demographics (23). Another perspective to this was observed in one study where doctors had a conflict between work and family life (13). They identified missing family activities, not spending time with partners and not being able to care for their children as burnout contributory

factors (13). Khasne et al found a correlation between females and young HCWs and significant levels of burnout (15). This high prevalence of burnout in nurses could be compounded by the fact that there are more female nurses than male nurses (14).

2.5.4 Nature of health service job

Burnout affects those who constantly do people work (5). HCWs are particularly affected because the nature of their job is about constantly helping people with infirmities, and the results are not always positive, which may, at times, be discouraging (7). The feeling of discouragement was also expressed by a group of physicians who said they never feel like their work is finished for the day, leading them to burnout (20).

Sub-Saharan Africa has challenges that have almost become the nature of healthcare facilities (14). The system is inundated with poor infrastructure and human resource constraints, while having a high patient load (11, 14). These increased work demands leave the workers feeling less competent as they are unable to provide optimal care due to these constraints, and they manifest as burnout (11, 14).

2.6 HCW Burnout during COVID-19 era

The rapid spread of COVID-19 has put an enormous pressure on health systems of different countries in the world. The risks factors of burnout arising from factors, such as shortage of resources, including personal protective equipment (PPE), staff shortages, moving staff to areas where they are not experienced in, increased working hours, discomfort of wearing PPE for long periods and HCW personal and family health risks, isolation from their loved ones and uncertainty about the disease itself, were exacerbated during the pandemic (3, 27-29). Despite these stressful conditions, HCW all around the world continue to soldier on at the front line of the pandemic, with stress and anxiety, emotional exhaustion, fearing for their lives and the lives of those close to them (27), are significant contributors of burnout (28).

Liu et al describe the role nurses play during the pandemic (30). Nurses spent much of their time in intensive units at closest contact with COVID-19-infected patients (30), conducting frequent assessments of the patients, managing airways, administering medication, chest physiotherapy, assisting patients with their daily activities, feeding and providing hygienic care (30). Because of exposure to the highly contagious disease and stigma, HCWs ended up isolating, also in fear of

infecting others. These substantive challenges contributed to burnout (30).

Results of a cross-sectional study of 892 nurses working in COVID-19 hospital wards in Spain had high levels of emotional fatigue (31). Their level of emotional exhaustion was associated with the duration of time working with Covid-19 patients and lower levels of nursing experience. Other factors that are attributed to emotional strain, are the high number of COVID-19-related deaths witnessed, which also occur in a rather strange manner that is not easily acceptable, overwhelming workload coupled with limited resources and staff shortages and the constant feeling of grief. Literature has suggested these factors as significant predictors of burnout (6, 29, 30, 32, 33). Not being able to accomplish job goals and receive reward for the work done also has been seen as a source of emotional distress for HCWs (6, 33-35).

Two studies conducted in Iran before and during the COVID-19 era found that the COVID-19 frontline workers had higher level of burnout, and in them, the doctors were more burnt out than nurses (3). The sample size of 87 was comparatively low and therefore more studies are needed to confirm that doctors are more affected than nurses (3). In contrast to the Iranian studies, researchers in a study done at the epicentre of COVID-19, Wuhan in China concluded that burnout on the frontline HCWs was markedly lower (16%) than on the workers in their usual wards (39%) (18). Both these groups in the Wuhan study were oncology specialists, with one group deployed to meet demands in the COVID-19 units (18). Perhaps, these results bring into light the severity of burnout in oncology units. The deployed HCWs disagreed that they felt any more burnout because of the pandemic crisis. This could be that those at the frontline get a sense of control and achievement by helping in managing the crisis, while the other cohort feels the opposite as they are anxious about the susceptibility of their patients to this poorly understood rapidly spreading virus (18).

The results of a multicenter study including doctors and nurses working in various emergency departments during COVID-19 pandemic revealed that HCWs who work in emergency departments are prone to developing burnout (28). Among these workers 53.3% and 42.5% of nurses and doctors, respectively, had burnout. Notably, those who originally worked in the Emergency Department (ED) are at higher risk compared to those who were deployed to assists in the pandemic situation (28) due to the nature of work the nurses do; being a highly active job in the ED, with poor social support, worsened by the current pandemic (28).

In a cross-sectional study by Khasne et al, which included doctors, nurses, dieticians, physiotherapist, pharmacists, ward boys and administrative staff, more than 50% of 2026 respondents reported burnout that is pandemic related through a CBI tool (15). There was no significant difference of level of burnout found between administrative staff and other staff members. However, those who worked at high risk area had highest prevalence (15).

HCWs in SSA and Africa at large are generally working under taxing circumstances where there are deeply entrenched healthcare systems' deficiencies (32, 36). The pandemic compounded these issues placing the HCWs under enormous pressure and causing them to be more prone to burnout (14, 36, 37). The ill-preparedness for COVID-19 response in Ghana and Kenya has been associated with an increased level of stress and burnout (37). In Limpopo province, vacant posts were frozen at a critical time when staff needed to be capacitated. As a strategy to meet demands, nursing managers kept the staff member who tested for COVID-19 at work until they received the test result, to the workers detriment (38). The lack of resources and increased administrative workloads overwhelmed the nursing managers in Limpopo (38). These are predisposing factors of burnout (14).

2.7 Consequences of burnout

HCW are an important resource during the pandemic for rendering essential services (14).

Adverse effects of burnout are serious and affect not only the individual, but also their clients and organizations for which they work (5, 11). These consequences can be summed up into two, organizational and personal.

2.7.1 Organizational consequences

Organizational consequences of burnout include absenteeism, frequent sick leaves, job dissatisfaction, decreased organizational commitment, suboptimum care, medical errors that lead to litigations (24, 26). The medical errors, the literature suggests that they are from working long hours (13). Burnout, therefore, poses a financial burden to organizations (3).

2.7.2 Personal consequences

Burnout increases the chances of developing mental health conditions like depression and substance abuse (26). In a rapid systematic review conducted by Pappa et al, HCWs experienced significant levels of anxiety, depression, and insomnia during the COVID-19 pandemic (39). When interviewed on factors affecting work-stress and burnout, one social worker revealed that some of them drink alcohol just to forget the work stressors (25). Burnout also causes somatic symptoms such as insomnia, lack of appetite, frequent headaches, and body pains and diminished overall quality of life, and deteriorating interpersonal relations (24, 26).

2.8 Burnout reduction strategies

Burnout reduction strategies are targeted at challenges identified by the literature and are essentially organizational interventions and individual interventions (14, 35, 40). Therefore, it is important to recognize and acknowledge it as a prevalent phenomenon to develop targeted reduction strategies (24, 27). This will not only benefit the individual HCW, but it will also help society and the entire health system (15).

Organizations and management are key role players in creating work environments that are safe, stress-free and reduce burnout (6, 14, 40). Their fundamental responsibility is to provide health infrastructure, IPC, human resources to meet case demand and flexible working hours (14). It is unfortunate that in the SSA some of these are not easily implementable due to the severe health system shortcomings (14). Suggested organizational strategies include reducing workload, improve workflow and communication skills, holding debriefing sessions, encouraging teamwork, develop and train on guidelines and policies to create a sense of control and certainty, as well as providing opportunity for adequate rest and exercise (40).

Evidence suggests that implementation of shorter working hours to promote inter-shift recovery has a potential to decrease stress and exhaustion (7, 26, 29). The health, safety and wellness of the workers must be a priority in an organization, creating a work environment that protects staff from being overworked and encouraging self-care (26, 30), create employee assistance programs for those who might need counselling services or rehabilitation (15). A systematic review study showed that

psychological counselling and support sessions for COVID-19 frontline workers can be a viable strategy for dealing with burnout (40). Out of these strategies, psychological support has been suggested as potentially the most effective strategy in managing burnout (14, 40). Incentives must also be used as a form of motivation and not withhold remuneration from those that are deserving (25).

Mousavi-Asl et al suggested that hiring experienced workers during time of crisis like COVID-19 pandemic may reduce level of HCW burnout (3). This could be so because literature suggests that another contributing factor to burnout is the issue of a worker having to work in areas that they have no experience in (18, 27) and in one study, doctors with advanced years of experience showed lower levels of emotional exhaustion and depersonalization. This suggests experience as a protective factor for burnout. With these results the key recommendation was the retention of senior staff to supervise and support those less experienced (19).

Individual oriented strategies alone are not effective to managing burnout since an individual would have little control in the many causes of burnout, which are organizational (6). An individual oriented approach will alleviate exhaustion, but will not manage the other two burnout dimensions (6). At the core of individual strategies should be the commitment to educate and create an awareness on burnout, as well as to increase capacity to cope in a stressful work environment (6, 35). HCWs are encouraged to maintain connections with their loved ones, where there are restrictions such as social distances, digital media can be used to maintain contact (28). When HCWs interact socially, their risk of burnout is reduced (40). In one study of HCW in China, participants reported that this is their preferred coping strategy that made them feel safe and not alone (28, 41). Having control at work facilitates engagement and reduces burnout (18). This can be achieved through having a supportive work groups that will devise strategies to meeting work demands as a collective (7). Feeling part of a coherent team reduces risk of burnout (24).

2.9 Conclusion

The burnout phenomenon is of serious concern in the human service industry. Despite the compelling evidence in literature, there are still varying views and controversies about what the phenomenon is, its aetiology, symptoms and its assessment methods. Among HCWs globally, there is high prevalence of burnout, and nurses are generally more prone to it. However, some studies report high burnout

among doctors. This variation may be due to the non-comparable methods employed, differences in sample sizes and research settings. With the COVID-19 pandemic, frontline HCWs globally were under an enormous pressure with the risk factors of burnout exacerbated. This evidence is contested by other studies which have shown that oncology HCWs have the higher burnout prevalence than the COVID-19 frontline HCWs. Organizations and management have a key role in reducing the risk of burnout. And this can be achieved through the creation of safe and wellness-supporting work environment.

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CHAPTER THREE

METHODOLOGY

3.1 Overview

This chapter entails theory-guided research methodology applied to this study to answer the research question. It elaborates on the materials and methods which include study design, study setting, study population and recruitment process. In addition, it describes how data were managed and analysed, including ethical considerations. Finally, this chapter explains the measures taken to ensure the trustworthiness of the findings.

3.2 Study design

This was a qualitative study employing an interpretivist paradigm which affords the researcher an understanding of the participants' experience of the phenomenon in their own context and through their own interpretation (1). According to Guba and Lincoln (2), a research paradigm can be revealed by the types of answers given to these three basic questions; ontological (what is the nature of reality), epistemological (what can be known) and methodological (how can the researcher gather the knowledge) questions (2). This interpretivist perspective, at its core is made up of two factors; it uses a subjective epistemological point of view, which expects a diverse interpretation of reality, and secondly, an effort to build a detailed picture of how the phenomenon is understood by those who have personally experienced it (3). The researcher's "worldview" is that reality is subjective and there are multiple interpretations that can be gathered from the participants. The recruited healthcare workers were considered to be in the best position for providing a clear picture of how they experienced burnout during the pandemic. With the grounded theory approach, this exploratory qualitative design afforded the researcher an opportunity to discover how burnout manifested in HCWs during COVID-19 in the Eastern Cape, Mthatha, gaining a deeper understanding of their shared experiences through their own descriptions.

3.3 Study setting and participants

The study was conducted at MRH, which is in the Oliver Reginald (OR) Tambo district in Mthatha, Eastern Cape. The MRH has specialist departments, such as internal medicine, family medicine, obstetrics and gynecology, surgery, anesthesia and pediatrics. However, for this study, we recruited nurses and doctors who had been assigned to COVID-19 wards, as they were most likely to be severely affected by intimate and sustained exposure to caring for patients diagnosed with COVID-19. Notably, during the COVID-19 pandemic, specific areas were turned into COVID-19 specialized wards, as the rapid spread of the disease could not have been anticipated.

Using purposive heterogeneous sampling, doctors and nurses who had been displaced from their original departments to COVID-19 wards were recruited into the study. With the help of the facility management, these participants were identified. The heterogeneity nature of our sampling enabled the researcher to ensure a good mix of participants in terms of occupation, experience, gender and age. The sample size was determined through data saturation, which was reached at ten in-depth interviews, a point where no new themes emerged from the in-depth interviews. The literature asserts that data saturation can be reached at ten in-depth interviews with information-rich participant (4-6).

3.4 Data collection

Face-to-face in-depth interviews were conducted by the researcher, in English, during lunch breaks (this arrangement had been cleared through the facility management), at a private and convenient place for the participants. The process of interviews spanned from 23 March 2022 to 05 May 2022. The interviews lasted an average of 26 minutes (14 to 49 minutes). All participants signed informed consent before being interviewed, and the interviews were tape-recorded (with the participant's permission). Interviews were conducted in a private space negotiated between the interviewer and the interviewee. For each interview, a literature-informed interview guide (Appendix F) on burnout was used. The interview guide had key open-ended questions and follow-up questions to elicit detailed participants' experiences of burnout. The tool covered different elements of burnout, the effects of burnout on their health and patient care, as well as the effects of burnout on how they perceived their professions. To enhance the depth of the data, direct probing and practical questions, such as “*What*

had happened?”; “How did you handle the situation?” were also used. The interview was concluded by soliciting the participant’s socio-demographic information. For confidentiality purposes, participants were de-identified during the analysis and they were assigned with special codes.

3.5 Data analysis and management

Data collection and analysis were performed iteratively. The audio recordings of the interviews were transcribed in verbatim by the lead researcher and were then analysed using Colaizzi’s method of analysis (7). The process included reading the transcripts several times to understand and become familiar with the data (data emersion), identifying relevant statements (coding) and making meaning of them, and organizing the data into categories, common themes and sub-themes (7) with the assistance of NVivo12 software (8). The analysis was conducted inductively, thereby allowing themes to emerge from the data. The researcher exercised bracketing using the journaling method throughout the process. This was important not only for the participants but for the researcher too, since she is a practising Clinical Associate herself. This also got to protect her from being emotionally triggered during the process. Bracketing is a method used by the researcher to mitigate potential biases from unacknowledged presumptions in order to limit expectations and remain neutral throughout the process (9). This is done with an understanding that the researcher is an instrument in qualitative research in all the stages and that failure to examine oneself can influence what the researcher deduces from the voices of participants (9).

The datasets analyzed during the current study will be retained by the University of KwaZulu-Natal (UKZN) and cannot be publicly available. All interested readers can access the dataset from the UKZN Biomedical Research Ethics Committee (BREC) through the following contacts: The Chairperson Biomedical Research Ethics Administration Research Office, Westville Campus, Govan Mbeki Building University of KwaZulu-Natal P/Bag X54001, Durban, 4000 KwaZulu-Natal, South Africa Tel.: +27 31 260 4769 Fax: +27 31 260 4609 Email: BREC@ukzn.ac.za. The datasets will be stored for a period of at least 5 years from date of publication.

3.6 Measures to ensure trustworthiness in qualitative studies

3.6.1 Overview

To ensure the trustworthiness of the study findings, the procedures outlined by Lincoln and Guba were followed (10). These are a guidance on credibility, transferability, dependability and confirmability of the study.

3.6.2 Credibility

Credibility which can also be referred to as the confidence in the truth value of the study findings is presumed to be the most important of the four factors (10). For this study, to ensure credibility, the researcher read and familiarized herself with the interview guide prior to the initial interview and each interview was guided by the same tool. Following the initial interviews, a debriefing session was held with the co-supervisor. The transcripts were read several times to identify emerging themes.

3.6.3 Transferability

Transferability is the extent to which the research finding can be applied to other settings by other researchers. This can only be determined by the reader (10). To assist the reader in determining the transferability of the findings of this study, at the end of the interviews, demographic information was solicited, and the variations in the participant's characteristics were considered and described. The context at which the participant exist as HCWs was also described. This will ensure that the reader can make meaning of the findings from the thick descriptions and decide on the transferability according to their specific context and any other researcher who may be interested in conducting similar studies can also be able to determine the comparability of MRH and its HCWs to their own setting.

3.6.4 Dependability

Dependability is the stability of the data over time and over the conditions of the study (10). The study findings were gathered from the verbatim transcripts and properly documented. To support the findings verbatim quotes were used in documenting the findings.

3.6.5 Confirmability

Confirmability is the degree to which the findings are consistent and can be repeated. This implies that the results ought to be free of the researcher's bias. Since the researcher is a HCW herself and holds views on the subject matter, she constantly used bracketing to ensure that the study findings were free from her personal beliefs, values and opinions while maintaining rigor.

3.7 Ethical consideration

The protocol of this study, including the information sheet, consent forms and interview guide, was reviewed and approved by the University of KwaZulu-Natal Biomedical Research Ethics Committee (Reference Number: BREC/00003441/2021). Gatekeeper's permission to conduct the study in MRH was also obtained. The approval letters are appended to this report (Appendix B and C). Participation in this study was voluntary, and prior to the commencement of interviews, written informed consent to conduct the interviews and be tape-recorded were obtained from all participants recruited into the study. Given the potential for the interviews to cause the participants to re-live the traumatic experiences of the pandemic, eliciting anxiety and stress, arrangements to refer such cases to a private psychologist, were made. However, no participant was in need of the services of a psychologist.

All participants were requested not to mention or indicate their name identification during interviews. The ethical approach was a priority for this study, in addition to giving consent to participate, a right to confidentiality, anonymity, and withdrawal at any stage of the research study was also reiterated to the participants. To maintain anonymity, each participant was de-identified, and assigned a code, e.g., N1, N2, D1, D2, on the transcripts and recordings. All participants were given a copy of the information letter and informed consent and notified that should they require any further information they can contact the lead researcher or BREC.

3.8 Results Dissemination

The results of the study were published in the International Journal of Environmental Research and Public Health (IJERPH) (2023) (20) (5451). <https://doi.org/10.3390/ijerph20085451>.

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**CHAPTER FOUR: “WHY AM I EVEN HERE IF I CAN’T
SAVE THE PATIENTS?”: THE FRONTLINE
HEALTHCARE WORKERS’ EXPERIENCE OF BURNOUT
DURING COVID-19 PANDEMIC IN MTHATHA, SOUTH
AFRICA**

This chapter presents the results of the study, which were published in the International Journal of Environmental Research and Public Health (IJERPH) (2023) (20) (5451). <https://doi.org/10.3390/ijerph20085451> .

“Why Am I Even Here if I Can’t Save the Patients?”: The Frontline Healthcare Workers’ Experience of Burnout during COVID-19 Pandemic in Mthatha, South Africa

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Abstract: Introduction: Globally, the high prevalence of burnout in healthcare workers (HCWs) is of the utmost concern. Burnout is a state of emotional exhaustion, depersonalization and a decreased sense of personal accomplishment. While the 2019 Coronavirus (COVID-19) exacerbated the burnout prevalence among HCWs, limited studies have explored this phenomenon using qualitative methodologies in the Eastern Cape Province and South Africa generally. This study explored how frontline healthcare workers experienced burnout during the COVID-19 pandemic in Mthatha Regional Hospital. Methods: Ten face-to-face in-depth interviews were conducted with non-specialized medical doctors and nurses who directly cared for COVID-19-infected patients during the pandemic in Mthatha Regional Hospital (MRH). In-depth interviews were digitally recorded and transcribed verbatim. Data were managed through NVIVO 12 software before being thematically analyzed using Colaizzi’s analysis method. Results: Four main themes emerged from the analysis. These themes were burnout manifestation (emotional strain, detachment and irritability, uncertainty-induced fear, and anxiety, physical exhaustion, yet, low job accomplishment, dread and professional responsibility), precursors of burnout (occupational exposure to high mortality, staff shortages, elongated high patient volume and workload, disease uncertainties and consistent feeling of grief), alleviating factors of burnout (time off work, psychologist intervention, periods of low infection rate and additional staff), and the last theme was every cloud has a silver lining (improved infection prevention and control (IPC) measures, learning to be more empathetic, the passion remains and confidence grows). Conclusion: The COVID-19 pandemic brought about a rapid change in the work environment of healthcare workers who are the backbone of efficient healthcare services, thereby rendering them vulnerable to increased burnout risks. This study provides strategic information for policymakers and managers on developing

and strengthening welfare policies to promote and protect frontline health workers' well-being and work functioning.

Keywords: burnout; frontline healthcare workers; COVID-19; pandemic; Mthatha

1. Introduction

Since the discovery of the concept by Freudernberger in 1974, burnout has gradually been recognized as a psychological phenomenon with personal, professional and organizational consequences, which affect both the quality of services rendered and personal well-being (1-3). In his study, Freudernberger observed certain traits among overworked personnel in a free clinic in New York. What was apparent in these workers were physical and behavioral symptoms, including fatigue, exhaustion, recurrent headaches, insomnia, gastrointestinal problems, shortness of breath, anger, frustration, depersonalization, use of substances to induce sleep and depression. He concluded that what he had observed was "burnout" (2, 4), a phenomenon that he attributed to emotionally demanding, exhausting and underpaying workplaces, requiring personal involvement and self-motivation (3, 4). Building on the foundation laid by Freudernberger, Maslach expanded the definition of burnout as a syndrome of psychological response to chronic emotional and interpersonal stressors on the job, consisting of three dimensions, namely emotional exhaustion, depersonalization and decreased personal accomplishment in people who consistently work with people and their problems (2, 5, 6). To date, Maslach's work has become an authority in the field of burnout (4). Taking it a step further, the World Health Organization (WHO) has classified burnout as one of the factors influencing the health status of professionals who experience poorly managed chronic workplace stress (7).

Predominantly, burnout is assessed using Maslach's Burnout Inventory (MBI), a questionnaire that measures the three dimensions of burnout (4-6). Maslach and colleagues developed the (MBI) as a popular practical quantitative measurement tool for burnout across a diverse occupational spectrum (4, 8).

Due to the nature of healthcare workers' (HCWs) work, they are at increased risk of burnout (9), as shown by the global burnout prevalence among HCWs (10-12), which ranges between 18 and 82% and is highest among nurses and doctors (13-15). In sub-Saharan Africa (SSA), the prevalence of burnout varies between 40 and 80% (11). Burnout among HCWs is not a new problem, as the 2003 cross-sectional survey involving 132 district-level doctors from 27 facilities around the Cape Town Metropolitan Municipality in the Western Cape revealed that 73% of medical doctors had burnout (12, 16). In 2020, a survey conducted in KwaZulu-Natal, which followed the three dimensions of

Maslach's Burnout Inventory (MBI), revealed a burnout prevalence of 59% among medical doctors (17). Lack of hospital resources, poor infrastructure, lack of clinical support from supervisors, poor working conditions, staff shortages, working overtime, high workload, lack of organizational support, inadequate salaries, dealing with crises at work (12, 17, 18) have all been reported as significant contributors to burnout. These challenges are pervasive among HCWs (19).

The 2019 coronavirus (COVID-19) pandemic created conducive conditions for burnout to thrive among HCWs, given substantive changes in their usual practice and the delivery of services to patients (18). As of 18 July 2022, nearly four million (3,999,751) positive cases and over one hundred thousand (101, 918) deaths had been reported in South Africa since the first case in March 2020 (20). The sharp increase in COVID-19 morbidity and mortality put pressure on HCWs' workload, who had to contend with the overwhelming ethically and emotionally wrenching decisions of allocating scarce resources, the risk of infection and infecting family members, and the trauma of losing loved ones and colleagues to the incurable virus. These factors have caused significant emotional exhaustion, physical exhaustion, anxiety, depression and powerlessness in HCWs' ability to manage their patients, thereby rendering them vulnerable to burnout (8, 9, 21-24). The current evidence suggests that COVID-19 frontline HCWs in designated COVID-19 wards were exposed to extraordinary stress (25-27).

Frontline HCWs' health and safety are of the utmost importance, given their role in patient care, more so in such time as the COVID-19 pandemic (25). Few studies conducted during the pandemic showed that HCWs directly caring for COVID-19-infected patients suffered a myriad of mental, emotional and physical challenges, including burnout, and these studies have, to some extent, been associated with gender, age, profession, marital status and level of experience (9, 18, 25). Therefore, it is important to acquire an in-depth understanding of how HCWs in MRH have experienced burnout during the COVID-19 pandemic, with a view to guiding the development of interventional support strategies for future pandemics (24). To the best of our knowledge, there are currently no studies exploring HCWs' experiences of burnout in the Province of Eastern Cape using qualitative methods.

2. Materials and Methods

2.1. Study Design

A study using exploratory qualitative design was conducted to gain deeper insights into the manifestation of burnout in HCWs during COVID-19 from the participants' perspectives.

2.2. Study Setting and Participants

The study was conducted in MRH, Oliver Reginald (OR) Tambo district in Eastern Cape, South Africa. The MRH has specialist departments, such as internal medicine, family medicine, obstetrics and gynecology, surgery, anesthesia and pediatrics. However, for this study, we recruited nurses and doctors who had been assigned to COVID-19 wards, as they were most likely to be severely affected by intimate and sustained exposure to caring for patients diagnosed with COVID-19. Notably, during the COVID-19 pandemic, specific areas were turned into COVID-19 specialized wards, as the rapid spread of the disease could not have been anticipated. Using purposive heterogeneous sampling, we recruited doctors and nurses who had been displaced from their original departments to COVID-19 wards. The heterogeneity nature of our sampling enabled us to ensure a good mix of participants in terms of occupation, experience, gender and age. Lunch breaks were used to conduct in-depth interviews, and this arrangement had been cleared by the facility management. The sample size was determined through data saturation, which was reached at ten in-depth interviews, a point where no new themes emerged from the in-depth interviews. The literature asserts that data saturation can be reached at ten in-depth interviews with information-rich participants (28-30).

2.3. Data Collection

Using the interview guide approach, between 23 March 2022 and 4 May 2022, we conducted in-depth face-to-face interviews in English with ten participants, at a time (lunch breaks) and place convenient for them. The interviews lasted an average of 26 min (14 to 49 min). All participants signed informed consent before being interviewed, and the interviews were tape recorded (with the participants' permission). The in-depth interview explored how burnout manifested in those involved in caring for patients with COVID-19 (covering different elements of burnout), the effects of burnout on their health and patient care, as well as the effects of burnout on how they perceived their professions. To enhance the depth of the data, probing and practical questions, such as "*What had happened?*"; "*How did you handle the situation?*", were also used. The interview was concluded by soliciting the participant's socio-demographic information. For confidentiality purposes, participants were de-identified during the analysis.

2.4. Data Analysis

Data collection and analysis were performed iteratively. The audio recordings of the interviews were transcribed verbatim by the lead researcher and were then analyzed using Colaizzi's method of analysis (31). The process included reading the transcripts several times to understand and become familiar with the data, identifying relevant statements and making meaning of them, and organizing the data into categories, common themes and sub-themes (31) with the assistance of NVivo12 software (32). The analysis was conducted inductively, thereby allowing themes to emerge from the data.

2.5. Measures to Ensure the Trustworthiness of the Study

To ensure the trustworthiness of the study, we followed Lincoln and Guba's (33) guidance on credibility, transferability, dependability and confirmability. These were achieved through debriefing sessions after the initial interviews, providing a thick description of the study participants and the context, using verbatim quotes to support the findings and properly documenting the study processes. Since the lead researcher is a HCW herself and holds views on the subject matter, she constantly used bracketing to ensure that the study findings were free from her personal beliefs, values and opinions while maintaining rigor.

3. Results

The study participants comprised six doctors and four nurses involved in caring for COVID-19-positive patients during the pandemic, with the ages ranging from 26 to 46 years and the majority (70%) being females. These participants were recruited from their original departments of work, including family medicine (three), internal medicine (three), gynecology (one), labor ward (one), general surgery (one) and high care (one). Eight and two participants were single and married, respectively. By designation, among the nurses, three were professional nurses and one was an enrolled nursing assistant compared to five medical officers and one family medicine registrar. The duration of working with confirmed COVID-19 patients ranged from 1 month to 24 months. Notably, the results of this study are analyzed without any emphasis on the specificities of the professionals interviewed (doctors vs. nurses). During data analysis, four main themes and sixteen sub-themes emerged from the analysis. These themes were burnout manifestation, precursors of burnout, alleviating factors of burnout, and lastly, every cloud has a silver lining (Figure 1).

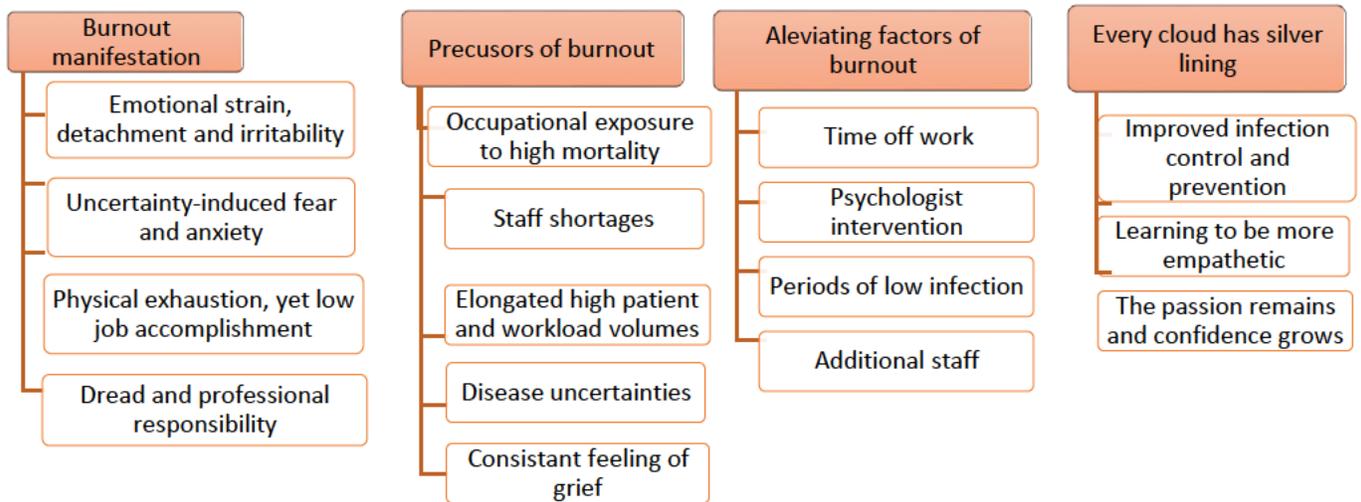


Figure 1. Themes and sub-themes from data analysis.

The main themes and sub-themes captured the strains and learning opportunities presented by the COVID-19 pandemic.

3.1. Theme 1: Burnout Manifestation

3.1.1. Emotional Strain, Detachment and Irritability

The first sub-theme under burnout manifestation was the emotional strain, detachment and irritability attributable to the high number of critical patients, the number of deaths, feeling inadequate to help the sick, dealing with panicking patients and grieving patient relatives, as well as infected colleagues, and generally, the change in the nature of their practice. As a result of the high rate of mortality, resource constraints and concern for their own well-being, participants eventually developed some emotional detachment from their patients. This increased their irritability, thereby failing to react diplomatically in situations, and this irritability also affected family members in home settings.

“it’s been hectic for all of us and most of us we’ve been hands-on, have been complaining majorly of the emotional strain that comes with it...It involved a lot of uhm- in fact long working hours and the high number of patients that we were seeing. So, it was involving mostly all of the aspects of our being. So, it came with emotional stress.”

(D1)

“You definitely experience the emotional exhaustion ‘cause you are losing patients. So that definitely takes a toll on you ‘cause [because] you feel like why am I even here if I can’t save the patients?... Patients are not the same, like, I mean, you’ll have a patient that will come in well, and then the next day patient has demised. Like that patient will affect me emotionally, more than someone who’s been unwell since the beginning.”

(D2)

“yeah It’s emotionally draining, it’s emotionally exhausting, because sometimes you would think I wonder what happened to the patient, because when I left, she was like this and this and this. And then when I come back...and that thing you would think about it for even a week.”

(N4)

“Uhm Because some of those patients were panicking it was emotionally exhausting, because we’d try to explain to someone uba (that) you have to do this and this and people were panicking, they’d take out the oxygen”

(N3)

“And it’s not just, it’s not just about the work itself, per se, during the second wave, it’s about the fact that you are not only dealing with the patient, you’re also dealing with their families, right. So, you are dealing with families, you’re also dealing with colleagues, colleagues with relatives that are also having severe form of COVID. So, there is a lot of emotional, I mean, you have- passing through a lot emotionally in terms of seeing your colleague losing their own relative, losing their own parent, losing your own colleague.”

(D3)

Emotional strain also affected how HCWs cared for the patients, given that health outcomes were usually poor.

“Because many times we know as health workers our aim is to salvage as much as possible of life as we can. But then during my COVID ward cover, many times, I had really little emotional attachment towards patients, and whatever the outcome I was not even moved. So, it was more like I’m just a robot doing work, I don’t really care much about the outcome because many times most of them will die. So, I think, personally, the main manifestation was my attitude towards patients, which is not yeah, ideal.”

(D5)

The emotional strain and detachment had a ripple effect on HCWs, as they increasingly became irritable, even in circumstances where they would normally react diplomatically. This irritability affected family members in home settings as well.

“A part of you empathizes and sympathizes with the patient right. But if- when there’s nothing else, you’ve given them salbutamol

nebs and oxygen, sometimes they do not feel the oxygen it goes up to 15 up to 20 You feel like there's nothing more I can do you feel like a bit irritated and tired as to, but there's nothing else I can do, everything that was prescribed and above that I've done, but there's nothing the patient is still in distress."

(N4)

"So, you will, I think I had even myself personally noticed there was a time my wife said, "You know what, now you are, you no longer talk to the kids, you shout at them all the time... you get home you are tired physically, let alone emotional-emotional tiredness, you are physically tired. There's emotion, there's a child that does not understand what is going on. They just want their father's love. So, you will, for a small thing, you will find shouting at the kids because you are tired... I was at that point of burnout."

(D6)

"...and there are times you would even become irritable for no reason because we were going through a lot. There are times that you would find yourself not as receptive to the relatives of the sick one as much as you supposed to be and even towards colleagues because we would all be irritable at different points in time. So, it brought up characters we never thought we would be demonstrating to people around us."

(D1)

3.1.2. Uncertainty-Induced Fear and Anxiety

The ineffectivity of COVID-19 and the mortality rate thereof induced fear and anxiety on HCWs. The fear of contracting and possibly dying from the disease while caring for patients was an overriding feeling, to a point of distrusting the personal protective equipment (PPE).

"Mmh ok, I think a whole lot of us just had anxiety, like a lot of anxiety, 'cause you're doing so much but your patients are still dying so you feel like you're not doing enough, but at the same time, we have our own anxiety with regards to- just like COVID, in the beginning anyway, with regards to COVID because you don't know am I gonna get it? Did I sanitize correctly? Is my PPE—like did I wear my PPE correctly? Did I take it off correctly?... But I always was like thinking at the back of my mind, the smallest thing "I have a headache- do I have COVID?" "I have a scratchy throat- do I have COVID?" You know. So, I just walked around with a whole lot of anxiety so I didn't actually actively do anything about it."

(D2)

"You're feeling unsafe for yourself and especially the people you live with at home, if you're someone who lives with people, if it's elderly people, if it's kids. And every new wave brings a new characteristic or things like that. So, you're always nervous you're feeling unsafe,

you're unsure if you're gonna make it that's, I think that's the biggest worry, unsure if ok I'm gonna work because it's my job, but if I get it again, am I gonna be safe again?"

(N1)

"And patients are also anxious, the doctors are also anxious about what's gonna happen, am I gonna get COVID and all that, yet you still have a lot of patients to see."

(D3)

3.1.3. Physical Exhaustion, Yet, Low Job Accomplishment

HCWs also experienced physical exhaustion imposed by increased workload and work demands and long working hours; yet, there was no sense of job accomplishment, given their inability to save COVID-19-infected patients.

"But then there's also just like the physical fatigue 'cause now you have so many more patients, even working in casualty uhm like you have so many more patients than you would normally, and your patients are so sick, so you like doing much more."

(D2)

“And it was just feeling tired, working overtime. I remember some other days we would go out at 10 midnight because we had so much to do and the night staff would come late and there were few people to work around with, so personally it was very hard”

(N2)

However, hard work did not match health outcomes, thereby creating a low sense of job accomplishment, and the fact that patients were indulging on information from the media platforms did not make things any better.

“Now that patient will not have confidence in you...and now you will find yourself in the back foot in winning a battle with the patient. How is he gonna trust you about any other thing now that we’re gonna say. So, COVID will make you feel you are smaller when it comes to treating patients, especially if you treat someone who’s current with news and what is going on”

(D6)

D2 added:

“And the other thing about COVID, especially the first wave is that you sort of didn’t know what to do. So, you felt like you are powerless. It literally felt like you are powerless and ... you were just standing there watching the patient die...I felt like I have no idea what I’m doing. And I’m just completely useless being here. Like, I felt like I’m just here for my patients to think, Okay, we have a doctor, but actually, this doctor doesn’t know what he’s doing, so yeah”

N1 further attributed her inability to perform her duties efficiently to resource constraints.

“You know what, if you have patients that are dying on your watch and you know there’s something you could’ve possibly done had the facility had such uhm treatment maybe, equipment maybe, that could’ve helped a patient at least, you go home feeling like a failure because you know “I studied this in the book, I could’ve done this if I had this to work with.”

(N1)

D5 further expressed that not being able to achieve what you were called to do yields zero accomplishment.

“I think the time I was covering COVID ward personally, the death rate, was more than 80%. So being a doctor, knowing that your call is to save lives, but then you’re not saving any. So, I don’t feel like I’m accomplishing anything, anything during the COVID Ward cover, because patients kept on dying, no matter what we tried to do. And so, it was like, zero accomplishment, just being there as a robot to certify deaths actually than to save lives.”

3.1.4. Dread and Professional Responsibility

The difficult period created a dreadful climate, took away HCWs' enthusiasm about their work, but they still felt that they had no choice but to show up and fulfil their duties.

"We cope, we push as much as... as hard as it was. But you had no choice, you wake up the following day you still come to work even though you know that it's hard."

(N2)

"And every time you have to wake up and come to work, it would be a struggle, because we were so exhausted. The interest in coming to work was almost zero. But because we had to push through, we didn't have a choice we went on."

(D1)

3.2. Theme 2: Precursors of Burnout

3.2.1. Occupational Exposure to High Mortality

Occupational exposure to high COVID-19 mortality rates imposed emotional exhaustion on HCWs in a manner that ultimately culminated in burnout.

“So, because of the toll of seeing people dying every day, so initially, every time you get home, [you are] very emotionally exhausted. But then over time, like, I don’t really feel anything towards whatever’s happening to my patient... So the number one cause was the rate of death. So, there was a high mortality rate, and at the same time, not being able to do anything for the patients, there’s no medication, the hospital is poorly equipped. So, there’s nothing much we could do. So, the rate of death was so high that and at the same time not being able to intervene. So, I think that was the number one moral killer in a way... So, it was the first experience where by yes, you are a doctor and ahhh you have more deaths than people living. So, it was the first experience whereby, like, you see death left, right, and centre in a day, like that. So, I think it was- I had no previous encounters of such high death toll.”

(D5)

“And eh-eh during first wave and second wave there were lot of deaths as well, so that created a lot of emotional burnouts. It was not easy.”

(N2)

3.2.2. Staff Shortage

All participants conceded that staff shortage contributed to their feeling of burnout. The family medicine doctors were further stretched thinly because, even though they had their allocated time in the COVID-19 designated wards, they would still have to find the means to capacitate the casualty and outpatient departments.

“Uhm there was one time that I was working with only one other category of nurse that was the lower category. And we had about 13 patients, just the two of us, 13 patients, majority of them were on oxygen and oxygen on respiratory distress, and others are very confused, trying to jump out of bed. “Nje” [So] it has been very hectic, it’s been made worse by a shortage of staff, because we do not have staff at all, at all. If you’re lucky, you’ll be like five in a team. And nurse-patient ratio is just not adding up, does not add up at all.”

(N4)

Over the course of the pandemic, the hospital contracted nurses to meet the staff demands, and N2 shared how, during the times when there were no additional nurses, the burnout was more.

“One may say that coz [because] in the beginning there was no one employed specifically for COVID, so we had to extract employees

from the other wards to come and work in the COVID ward, so that created so much eh-eh-eh confusion and more of burnout, because people didn't wanna [want to] come and work here, so we had short staff. We were so short staffed... So, imagine the staff that used to work in one ward having to be split into three wards and some of us are on quarantine. So, it was- there was that time though I'm not specifically sure was it wave 3 or wave 2. But I think it was wave 2, because it was most hectic of them all... But after we got our contract workers it became more easier as we got more staff to work around and uh-h things got better"

(N2)

3.2.3. Elongated High Patient and Workload Volumes

The COVID-19 era caused a rapid increase in patient volume in the hospital, thus increasing the workload and the number of hours for the personnel, particularly during waves 1 and 2 of the pandemic. COVID-19 exacerbated the distress experienced by HCWs prior to the pandemic.

"The high number of patients that were coming were not easy to manage. So, we would get very large numbers, I would say more than 6 or 7 times the number of patients we would normally find before COVID or in between the waves. So, the major factors were the shortage of staff and the number of patients that were affected and needed that medical attention."

(D1)

"You find that the workload now is too much on the people who are on the ground and the numbers would be quite high. So, I think during the second wave, it was just too much."

(D4)

3.2.4. Disease Uncertainties

The rapid development and evolution of COVID-19 posed a certain level of uncertainty with regard to the knowledge of the disease, the required care and even the adequacy of personal safety precautions.

"So, I think, during the first COVID wave, when- so obviously, none of us was really like, well up to date with COVID and how it works, except just seeing people dying a lot."

(D5)

"So, it makes you feel like I don't have- immediately feel like that's what could easily have could have triggered people to go to burnout and even depression because who do you talk to, who knows better in this? There's no one else. It's you and what you read. Everybody is reading the same thing, it's new every day. There's something that is released. So, it makes you feel like you don't- you're isolated -you're on your own. If you die, you will die and no one is sure how

to treat- a definite treatment for the condition. It caused a lot of stress."

(D6)

Not knowing when one is protected enough from contracting the disease increased uncertainty, asserts N4:

"No matter how much precaution you thought you took, the mask, the gowns, gloves, shoe covers, head covers, but there's always that eish, maybe it's I don't know, because firstly, ... when the disease was, was here first, it was said it was transmitted through droplets. So, we needed to wear mask. ... now you kind of feel like, what if it's airborne now? It's no longer about droplets to need to be in a certain distance away from the person. What if it's airborne now? So, a part of you feels like maybe the air can leak into the mask."

(N4)

3.2.5. Consistent Feelings of Grief

The unfamiliar rapid disease progression left HCWs wondering about the constant experience of such catastrophic events, the deaths due to unclear pathologies. Dealing with grieving relatives left them with emotional strains beyond work environments, to a point of having dreams and nightmares, hearing the screams of relatives.

"Because, at times, I would be sitting in my room thinking "how did we lose so and so?" or thinking; when I called a certain family, how a person reacted. Or maybe you would be sleeping, and then you wake up in a dream hearing a person crying. So, it does, like affect you as a person emotionally."

(N2)

"No, no, no, definitely not. The- more than the patient dying in front of you, that has COVID, what-what-what, you-what would ehh remain something ringing in your mind is what the relative say, when they felt like as health professional, we didn't do enough for their patients."

(D6)

3.3. Theme 3: Alleviating Factors of Burnout

3.3.1. Time off Work

The doctors took rotational time off among themselves as a strategy to decrease exposure to COVID-19 infection, reduce burnout and also alleviate physical exhaustion.

"Ok we also did like rotations, and we took weeks off so I think that also helps, 'cause you'd come back from your week off think "ok I'm good, I can do this" Uhm and then you start the week and by Tuesday afternoon you "ok I need to go again". So, it wasn't always that bad, I think the breaks and the rotations made a difference."

(D2)

“We tried to take time off, but it was not always possible. Sometimes you find that you, with the person that you’re working with, you may be in for two days, then the other one is off then when you come back, when the other one comes back. You take off just to relax. But it was not always possible that we will get off.”

(D4)

3.3.2. Psychological Intervention

HCWs also revealed that the psychological support they received from the hospital helped them cope better, and simply knowing that it is accessible was reassuring.

“So, there’s so much emotion involved during the second wave. So that you felt that at the point that some of us will be needing counselling and the hospital actually provided avenue for those that felt that they needed counselling themselves, needed the support, they had that opportunity to get counselling, and so... I feel that the fact that you have that opportunity, that service available for you, the fact that you know that it’s available, so it’s already reassuring that okay, at a point, I may need to go there myself. Others went there, so, I definitely believe that it helped. The fact that it’s even available, is helping in that regard.”

(D3)

“I quickly tried to adjust the mind and it’s I think it’s also the time they tried to bring the psychologists to talk to us about the ways of coping and what the way how we can get help in getting our minds putting our minds at ease with the COVID. I think that played a crucial role, because it came in the first wave. So therefore, once we got there, and then you start to think, and then you come at peace, then you could cope unless you don’t have even that support-nyana [small support] from the psychology psychiatry side of things to be able to put things in patterns for you and do what you can.”

(D6)

3.3.3. Low Infection Rate Periods

The periods of low mortality and morbidity reduced burnout.

“For-the- I think the fourth, third-fourth waves, the patients that we were seeing, what makes me feel like burnout was not as maximum as it was on the second wave, the number of patients that we were seeing was lesser and uhm the patients that we were seeing were not in very bad conditions. We would have the patients who are symptomatic, but quite stable, that wouldn’t need prolonged attention or mmh a long number of interventions to do. So, I think that’s what made us relax a bit, because the patients that we would be seeing were not in a severe disease, if I may put it that way, and the numbers were not many.”

(D1)

3.3.4. Additional Staff Members

The recruitment of additional nurses to meet the COVID demands meant that the workloads were fairly distributed, and the load became a little lighter.

“But after we got our contract workers it became more easier as we got more staff to work around and uh-h things got better”

(N2)

“Oh, the contract and then was renewed at the end of January. So that how it was somewhat by remedial but it was only about two people that were added. So, it wasn't that much of a help but it was not the same as only two people on duty with that number of patients.”

(N4)

3.4. Theme 4: Every Cloud Has a Silver Lining

Even though the pandemic had been a very challenging time in the practice of these HCWs, causing them burnout, some good came out of it, in line with the saying “every cloud has a silver lining.” The COVID-19 pandemic brought some important lessons.

3.4.1. Improved Infection Prevention Control Measures

The COVID-19 pandemic reinvigorated the basic infection prevention and control (IPC) measures, which had been neglected in the pre-COVID-19 era.

“So, I think that's one thing that it's changed for me, it has made like, protecting myself so much more important, you know, now I work with “could this patient have TB?”, cannot really come close to him or her without wearing a mask. Like now it's not just about COVID. And these are things that we should have been worried about even before. But we're just very chilled about it...now I must always wear a mask when I come close to a patient, I must always wear gloves when I touch a patient, I must always sanitize like, before I touch a patient, after I touch the patient, like I literally go home at the end of the day, and my stethoscope is sticky, because after every patient I examined, I'll clean it with the sanitizer.”

(D2)

“Uhm, I think more than anything, COVID has made us aware of any other things that we were not paying attention to like your cleanliness, your coughing and sneezing etiquettes and things like that. And now, I feel like we are trying, we are far from the end, but we are now trying to practice more of safer ways more cleaner ways, hygiene, and things like that. Ahh ja I feel like now we are more aware of such things than before, as practitioners and myself personally really.”

(N1)

3.4.2. Learning to Be More Empathetic Again

Some participants reported having returned to being empathetic again to their patients after COVID-19 caused emotional numbness.

“So, it got us to be more receptive to our patients to be more empathetic to our patients. I think it’s- it’s out of, I don’t want to say it’s out of guilt for having not done it or for having been unable to do it during uhm the peak waves, but it has taught me specifically that, it has taught me how important it is to interact on an empathic level with the patients. It improves- it’s got eh-an impact on their healing on their way to healing, it’s got an impact on their way to disease resolution, as much you find that we attending to clinical conditions, but there is always an emotional and a psychological aspect of things. So, I feel like we are now more receptive to patients when it comes to their emotions and their psychological aspects in disease, specifically.”

(D1)

“Now a COVID patient doesn’t feel like just a patient with a diagnosis. Now, I want to understand cause my relative when he had COVID I mean, he was calling me all that he didn’t say he was scared because grownups, but like, I understood that, Ok, so as a doctor in the family, he feels like I’m someone that he can, someone that he can call and be asking questions about his condition and all that. So, I think I think now I’ve understood patients more. Yeah, or better, rather.”

(D2)

3.4.3. The Passion Remains and Confidence Grows

Some participants shared the zeal that they still have for the work they do, despite their burnout experience, while others recognized that the unusual COVID-19 experience presented an opportunity for learning new skills and growing their patient care experience.

“Uhm, sheez..uhm, I feel like a soldier really (laughter). I feel like a soldier. I soldiered through a pandemic and contracting COVID three times and still coming to work and still not have quit my job. I feel like I am- I came out stronger. Obviously, there was burnout, there was things like that, but I feel like I came out strong. I came out more willing; want to know more, obviously do more with the employer’ support or the facility support because the most demotivating thing is wanting to do more and know more and not have the resources to do all that.”

(N1)

“So, in a way, because opened up my, my mind, professionally as to how to tackle and better intervene and better manage the patient. Because from past experiences as to how it was managed, so now you’re like, okay, this is how it was managed. Maybe if I try it like this, it might help.”

(N4)

“So, on my side when I see a severely ill patient I go with motivation because most of the management principles and the skills for managing these patients have improved a great deal.

So, there is a lot of improvement of how we manage- on how I manage the patients that I see, especially now that we are in a relaxed environment. Taking from the experience that we would have to work under pressure and be in a hurry, so now that we are in less pressure it’s easier to be precise and it easier to be proper in managing our severely ill patients. I would say the positive part about it is that we developed, or we fine-tuned a lot of skills in managing these patients.”

(D1)

“But I can say now it has made me stronger, more independent, more eager but also more cautious of how I do things because anything can happen at any time.”

(N1)

4. Discussion

The results of this study revealed how the COVID-19 pandemic rendered HCWs in MRH vulnerable to burnout, which manifested as emotional strain, physical exhaustion, anxiety and fear, low sense of job accomplishment, emotional detachment, irritability and dreading work, but without neglecting their responsibility. High COVID-19-related mortality, increased work volume, staff shortage and constant feelings of grief affected HCWs in COVID-19 wards. Psychological support from the hospital and the additional personnel mitigated the impact of COVID-19 on HCWs and improved their resilience.

Due to the COVID-19 morbidity and mortality, high workload, long working hours, resource constraints and feelings of job-related inadequacy related to poor recovery rates of patients, all participants experienced emotional strain. This was consistent with the literature, which posits emotional exhaustion as the central construct of burnout (3, 34). Similarly, a cross-sectional survey of 892 Spanish nurses working in COVID-19 hospital wards reported high levels of emotional fatigue, mainly associated with long working hours with COVID-19 patients and limited nursing experience (35). However, in this study, we did not explore the relationship between work experience and burnout, but consistent with the literature, high workload, staff shortages and limited resources were important factors in burnout (3, 11, 24, 36). Similar to other studies (25) on COVID-19 and other viral outbreaks (34), we found that high mortality imposed emotional distress on HCWs. Poor health outcomes related to COVID-19 cases saw HCWs demonstrating negative attitudes towards the patients, developing callous feelings, in line with depersonalization, as one of three of Maslach’s dimensions of burnout (5, 6). Depersonalization is a way of coping with workplace-related emotional stress by guarding

and moderating the level of compassion to patients (3). This could also be called negative and callous attitudes towards patients (3, 6). In contrast to our results, nurses working in COVID-19 wards in Spain had low levels of depersonalization; instead, deeper connection with patients and empathy were formed (26). However, in the literature, depersonalization among HCWs remains prevalent (11).

The impact of emotional strain and detachment led to irritability, which extended to home settings, a phenomenon congruent with the results of self-reported observation by Malaysian front-line HCWs who experienced burnout (37), frontline HCWs in Italy (38) and in Guillermo et al.'s meta-analysis (15).

COVID-19 created fear and anxiety among HCWs, a phenomenon not unique to this study (39), as they feared that they would contract COVID-19 and die or at least transmit the virus to their loved ones. This uncertainty left them anxious and fearful for what tomorrow held for them regarding their protection, to the point of distrusting the PPE at work (40). This common occurrence of anxiety and fear among HCWs was not surprising, given the unpredictability and transmissibility of COVID-19 (18, 25). Molina-Mula et al. (35) also found that HCWs experienced anxiety and fear due to similar factors and also found the working experience a protective factor. HCWs were suspicious of any symptoms, such as headache or sore throat, especially if they had been around COVID-19-confirmed positive patients, as was the case in a study by Liu et al. (25).

Our study participants reported high levels of physical exhaustion, thereby threatening HCWs' resilience at MRH. The high volumes of patients, increased job demands, long working hours in unfamiliar conditions and caring for critically ill patients with poor treatment outcomes were pervasive across the entire health system (18, 24). This was as strenuous an experience for HCWs as had been reported in China (24, 25). The extent of exhaustion was so severe that Liu et al. described their state as "collapsing" as soon as they reached their living quarters (25). Physical exhaustion was also observed among the physicians in Jordan (18). Sun et al. interviewed 20 nurses at First Affiliated Hospital of Henan University of Science and Technology who were caregivers to COVID-19 patients, and they described their physical exhaustion as extreme as well [32].

The fact that hard work put in by HCWs in caring for their patients did not match the outcomes created a feeling of inadequacy and powerlessness. Patients' overindulgence in information from the media disempowered HCWs who did not have extensive knowledge of the disease. Their inability to save patients' lives in their care created a sense of low accomplishment, which is one of the three dimensions of burnout discovered by Maslach and Freuderberger in the 1970s (1, 5). This is an important source of emotional distress for HCWs (24, 41). For them, there was no appropriate reward for their work, which is consistent with what has been found elsewhere (3, 42). De Hart also depicts five stages of burnout. Among them is the stage of chronic stress

during which, he argues, individuals are made to feel like failures, ineffective in their roles and incompetent and inadequate (43). Nurses in the United States of America also reported similar feelings during the pandemic (39).

The working conditions during the COVID-19 pandemic were so strenuous and unbearable, to the extent that HCWs dreaded going to work but held their heads above water to uphold their professional responsibility. This reluctance to work was also reported in a scoping review by Robertson et al. (9). These results are similar to the findings of a Malaysian mixed-method study of over 1000 HCWs from various healthcare settings. Participants experienced a loss of enthusiasm for their work during the pandemic (37). The South Korean study conducted during a Middle East Respiratory Syndrome (MERS) epidemic presented similar findings of HCWs opting to avoid working with infected patients but being bound by professional responsibility to provide care (44).

In our study, although not always possible, doctors made internal arrangements for rotational breaks to limit exposure to COVID-19 infection and reduce burnout and physical exhaustion. To meet the increased workload demands, which imposed a significant strain on HCWs, the government recruited additional nursing staff. These strategies are supported by the evidence, which suggests that long working hours are associated with poor inter-shift recovery, leading to more work stress and exhaustion, with the inverse being helpful in alleviating burnout during pandemics (23, 36), and recruitment of either volunteers or part-time workers to give time-out to the permanent staff is recommended to reduce the strain (45) during the pandemic. This is in addition to adjusting staffing levels to meet the demands of the pandemic (46). HCWs in China had the same need for more HCWs to meet the workload demands to ensure the quality of care (25).

Psychologist intervention was another important government intervention identified in our study. HCWs were provided with the option of psychological counselling sessions in order to equip them with pandemic coping and protective strategies. The knowledge of the availability of this option was soothing for HCWs, a strategy that had been used in China (25) and in other previous viral outbreaks (18, 23). This strategy can also be used to minimize risk for those on the pandemic frontline but not yet experiencing burnout (23, 40).

On the brighter side, and without downplaying the devastations of the COVID-19 pandemic, participants reported high awareness of IPC measures, such as screening patients, maintaining hand and respiratory hygiene, and wearing masks and PPE, because of COVID-19. These IPC measures had been neglected in the pre-COVID-19 era, negating the WHO recommendations on protection measures against viral outbreaks (47, 48). Consistent with these reports, HCWs in China also reported improved IPC compliance during the COVID-19

outbreak (47), and strict IPC guidance was reported to alleviate stress (49).

Despite undergoing an experience of emotional detachment towards their patients, the participants in our study eventually regained empathy and compassion, as COVID-19 affected their close relatives. This shift compelled HCWs to recognize the suffering of their patients and understand that they are treating the person and not the illness, noting that empathy goes with listening, respecting, communicating well and understanding. These are the backbone of effective medical care (19, 50).

Qualitative studies are important in order to complement quantitative studies and create a holistic picture of all the challenges underpinning burnout, especially within the context of COVID-19. As a strength of this study, the rigorous method of data analysis employed illuminates the deeper level of HCWs' shared real-life experiences of burnout. To our knowledge, there are no COVID-19-related burnout studies on HCWs in the Eastern Cape Province, and contrary to other studies, our study showed that despite the dark cloud imposed by COVID-19, there is a silver lining.

Although the study produced important findings, especially for MRH management, the transferability of the findings would be limited, given that the study was conducted in one health facility and confined to nurses and doctors, thereby excluding other healthcare workers involved in the care of COVID-19 patients. Although we contend that data saturation was reached, additional insights may have emerged with a larger sample size. Secondly, the study did not make comparisons between the two professions (nurses and doctors), as that fell outside the study objectives. Future studies should consider incorporating other healthcare professionals involved in patient care using mixed methods.

5. Conclusions

Healthcare workers are the backbone of effective healthcare services, but the nature of their work predisposes them to burnout. The COVID-19 pandemic increased HCWs' susceptibility to burnout, given that they had to work under highly unbearable conditions, where the job demands increased unexpectedly and rapidly. In this study, HCWs experienced various burnout symptoms, including emotional strain and detachment, uncertainty-induced fear and anxiety, physical exhaustion, low job accomplishment and dreading work while maintaining professional responsibility. The conditions created by COVID-19 pushed the government and HCWs alike to think outside the box and be creative in mitigating COVID-19-induced burnout. These creative ways included rotational time off work and psychological support.

Most importantly, although the COVID-19 conditions initially threatened HCWs' resilience, this subsequently improved HCWs and their adherence to IPC. The burnout phenomenon, which has evolved

over the years in terms of what it entails and its evocative power to capture the realities of people’s workplace experiences, has made it both important and controversial in the research field (3). Outbreaks such as COVID-19 magnify the depth and magnitude of the phenomena, and therefore, more studies capturing the various experiences of HCWs and patient perspectives, using mixed methods, are essential. This study provides strategic information for policymakers and managers on developing and strengthening welfare policies to promote and protect frontline HCWs’ well-being and work functioning.

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List of Abbreviations

HCW	Healthcare worker
MRH	Mthatha Regional Hospital
SSA	Sub-Saharan Africa
COVID-19	Coronavirus Disease 2019
MBI	Maslach Burnout Inventory
PPE	Personal protective equipment
IPC	Infection prevention and control
MERS	Middle East Respiratory Syndrome
WHO	World Health Organization

TB	Tuberculosis
UKZN	University of KwaZulu- Natal
BREC	Biomedical Research Ethics Committee
CIDERU	Cancer & Infectious Diseases Epidemiology Research Unit (CIDERU)

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CHAPTER FIVE

SYNTHESIS

5.1 Overview

This chapter shares an integrative summary of the key findings, highlighting strengths, limitations, and the overall policy implications of this study. Entailed in this chapter, also, are key recommendations for further studies on burnout during the pandemics and on how to promote employee wellness at both organizational and individual levels to mitigate burnout. This study aimed to explore how frontline healthcare workers experienced burnout during the COVID-19 pandemic in Mthatha Regional Hospital.

5.2 Introduction

This current study provides strategic information for policymakers and managers on developing and strengthening welfare policies to promote and protect frontline HCWs' well-being and work functioning during the times of life-threatening pandemics. HCW burnout is a public health concern as it affects the backbone of healthcare service. The deeply entrenched challenges of resource constraints and high workload in the SSA, compounded by pandemic put HCWs at a much greater risk of burnout. Considering the substantive risk of burnout in HCWs, this study explored burnout experiences in frontline HCWs in MRH.

The current study demonstrated how the COVID-19 pandemic rapidly changed the usual nature of work for HCWs, rendering them vulnerable to increased burnout. High COVID-19-related mortality, increased work volume, staff shortage and constant feelings of grief created a burnout breeding ground in COVID-19 wards. Psychological support offered by the hospital and the additional personnel mitigated the impact of COVID-19 on HCWs and improved their resilience. It is not apparent that burnout studies would yield positive findings, but in this study, it was discovered that truly every cloud has a silver lining, because the HCW's IPC compliance was reinforced, empathy for

patients was restored, and they became more confident in their field of work. For MRH, this study provides information that entails the lived burnout experiences as shared by those who were at the frontline of the pandemic in the hospital. This information could be used as the basis for informed hospital-specific employee wellness policies and programs on burnout.

5.3 Synopsis of key findings

The findings have addressed the study's research question "How have frontline healthcare workers experienced burnout during the COVID-19 pandemic in Mthatha Regional Hospital?" The COVID-19 pandemic-associated high morbidity and mortality rates unexpectedly and rapidly increased, putting pressure and spreading thinly the HCW staff to meet the increasing demand for healthcare services. HCWs at the frontline pushed through as the challenges left them with burnout, which manifested as emotional strain, anxiety and fear, due to disease-related uncertainty, physical exhaustion yet feeling inadequate and dread for duty. Although the COVID-19 pandemic conditions were unbearable, the HCWs felt some relief when they got time off from work to rest and when additional staff members were hired. The government's support with the offering of psychological services, additional staff members, time off from work, were all important interventions for alleviating the burnout. Despite initially experiencing emotional detachment, the HCWs eventually regained empathy towards those they served. Among the positives, the IPC measures which had been neglected pre-COVID-19 era were now voluntarily made a point of focus again by the HCWs themselves. Through it all these HCWs soldiered on with passion and confident in their practice, drawing from all the lessons they learnt.

5.4 Strengths of the study

Few qualitative studies have explored the burnout phenomenon pre and post COVID-19 era. As this study employed qualitative methods, the rigorous method of data analysis illuminates the deeper level of HCWs' shared real-life experiences of burnout. Some of the experiences shared by the HCWs would have been missed with quantitative methods. Because of this, qualitative studies are important in order to complement quantitative studies and create a holistic picture of all the challenges underpinning burnout, especially within the context of COVID-19. This holistic information will inform policymakers of wellness policies for HCWs. To our knowledge, there are no COVID-19-related burnout studies on HCWs in the Eastern Cape Province, so these findings are valuable to

inform any further studies on the phenomenon in this setting. Lastly, contrary to other studies, our study highlighted positives that came out of this dark period; that despite the burnout experiences, there has been improvements in the practice of the HCWs.

5.5 Limitations of the study

Although the study produced important findings, they cannot be generalised, as this is not in the nature of qualitative research. The transferability of the results would be limited, given that the study was conducted in one health facility and confined to nurses and doctors, thereby excluding other healthcare workers involved in the care of COVID-19 patients. Although we contend that data saturation was reached, additional insights may have emerged with a nominal increase in sample size. Secondly, the study did not compare the two professions (nurses and doctors). Due to the differences in these two professions, there may also be differences in how they've experienced burnout.

5.6 Policy implications

5.6.1 Research and policy

Despite the existing literature on burnout and its direct implications, not only on the individuals, but also on the organization, there is still a need for research on the topic in the context of South Africa, and especially in the Eastern Cape, because it is one of the provinces that are chronically under-resourced and infrastructurally challenged (1, 2), the factors that have been associated with burnout in the healthcare service. Burnout is not included in crucial policies, such as the Health and Productivity Management policy for public servants and the Department of Public Service and Administration (DPSA) wellness management operational plan 2013-2014 (3), even though it is acknowledged that work is central to a person's wellness (3). On the IDC, burnout is recognised and classified, as one of the “factors affecting health status or contact with health services” under “problems associated with employment”. The crucial policies therefore need to include burnout as a separate and important factor that would inform strategic and effective interventions for recovery for those affected by COVID-19 burnout and flag it for future pandemics.

5.6.2 Organizational level

The organization (Government) and its management are key role players in terms of burnout interventions (4). For health managers and policymakers to be able to develop targeted and comprehensive interventional strategies that will protect and help those in the frontline, they need to understand the frontline HCWs' experience (5, 6). The findings of this study provide that information and take it a step further, by revealing the precursors, alleviating factors, as well as positive lessons learnt from contending with the pandemic. Organizational behaviours play an important role in burnout; therefore, a change to adopt an organizational style that influences wellness values for employees is a step in the right direction (5). Strategies that have proven effective for the participants of this study were planning and facilitating resting times, improving workflow management, holding debriefing sessions, teach on coping skills, teach on current protocols and guidelines to increase a sense of safety and control (5). Lastly, it is not enough to add more HCWs in the field, but also maximise the ability of each worker to perform their duties efficiently (7). We need our heroes, the HCWs, healthy tomorrow, physically and mentally (7).

5.6.3 Individual and interpersonal level

It is important to educate and create awareness among HCWs about COVID-19-related burnout, what it is, what are the risk factors, how it manifests, its effects and how it can be prevented. This way, they can be able to recognize it, take care of themselves, and seek psychological support. Accessibility to psychological support is amongst the most important interventions in managing burnout (4, 5, 8, 9), and this is supported by the findings of this study. Social support and interaction with fellow HCWs are encouraged as they also reduce burnout (5), just like HCWs in China, Wuhan alluded to the fact that social support made them feel safe and not alone during the pandemic (10).

5.7 Conclusion

The research findings of this study have provided an understanding of how the change in the nature of work for HCWs during the COVID-19 pandemic rendered the HCWs vulnerable to burnout; how burnout manifested and those factors that alleviated the burnout. Furthermore, this study demonstrated the positive effects of the pandemic on HCWs practice, despite the seemingly insurmountable challenges. Even though the results of this study cannot be generalized they, however, they provide strategic information for managers and policymakers to develop and strengthen welfare

programs for HCWs. The study results are not only to inform strategies and programs at an organizational level, but also inform individual HCWs on the best burnout mitigation strategies.

5.8 Recommendations for future studies

To increase the in-depth understanding of burnout during COVID-19, there is a need for studies that will include a larger sample size with more heterogeneity of frontline HCWs. Secondly, a replication of this study and a mixed methods study in other settings, exploring burnout during the pandemic could also reveal other pertinent experiences. The mixed methods in future studies will expand the sample size, and explore other aspects that may have not been revealed in this study. Secondly, this will increase through the convergence of multiple sources of data (triangulation) the validity of data on burnout (11).

It is also recommended that employee wellness programs design burnout-specific programs that are evidence-based, easy to access, and yet effective for HCWs, even beyond the pandemic era. Promoting employee health and wellness also has a potential to enhance staff morale. Organizations need to facilitate creation of work environments that are not breeding ground for burnout. There must be an equal focus on the organization and the individual employee wellness (12).

5.9 Future studies

The COVID-19 outbreak, and other related pandemics have the tendency to magnify the depth and magnitude of the burnout phenomena, and therefore, more studies capturing the various experiences of HCWs and patient perspectives, using mixed methods, are essential. Furthermore, it is important that these future studies also investigate at greater depth the effects of HCW burnout on patient care outcomes, staff motivation and possible effects on staff retention. To emphasize the importance of wellness programmes for HCW, further studies should be conducted to explore the benefits of the existing strategies, while identifying current gaps for continuous improvements.

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APPENDICES

APPENDIX A: Letter requesting permission to conduct the study

Gatekeeper Letter of permission

Mthatha Regional Hospital
Mthatha Hospital Complex
Nelson Mandela Drive
DR Nxiweni (CEO)
24 October 2021

Exploring Burnout Among Frontline Healthcare Workers During COVID-19 Pandemic in Mthatha, Eastern Cape, South Africa

Dear Dr Nxiweni

My name is Noluyolo Fathuse from the University of KwaZulu Natal School of Nursing and Public Health. I am currently a second-year student doing master's in public health. Contact details are as follows:
Cell: 0763368510
Email: 218086512@stu.ukzn.ac.za

As part of fulfillment for my MPH degree, it is a requirement to conduct a research study for my dissertation.

I would like to request your permission to conduct a research titled: "Exploring Burnout Among Frontline Healthcare Workers During COVID-19 Pandemic in Mthatha, Eastern Cape, South Africa" in your institution. The aim and purpose of this research is to explore the experiences that the nurses and doctors have with burnout during the COVID-19 pandemic. The study is expected to enroll about 20-25 participants involved in managing and treating COVID-19 infected patients in the hospital. For this study one-on-one face-to-face in-depth interviews will be conducted using the same interview guide for all participants and all discussions will be tape-recorded (with participants' permission) to maintain the accuracy of information shared. The interviews will take about 30 to 60 minutes for those who choose to participate. If it happens that at the time of interviews there are COVID-19 restrictions that will not allow face-to-face interaction, telephonic interviews are an alternative. The study is self-funded.

The study does not involve any potential risks, however other participants might experience stress and anxiety during the interviews. Because of that, a psychologist will be requested to provide counselling when a participant reports that they need one. We hope that the study will have direct benefits by describing the lived experiences of the workers with burnout during the pandemic and inform management to create necessary strategies to help those affected by the phenomenon.

This study has been ethically reviewed and provisionally approved by the UKZN Biomedical Research Ethics Committee, with protocol reference: **BREC/00003441/2021**. The certificate of full approval will be shared with you upon receipt.

In the event of any problems or concerns/questions you may contact the researcher at:
Cell: 0763368510

Gatekeeper Letter of permission

Email: 218086512@stu.ukzn.ac.za

Regards

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Noluyolo Fathuse

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APPENDIX B: BREC approval



03 March 2022

Mrs Noluyolo Fathuse (218086512)
School of Nurs & Public Health
Howard College

Dear Mrs Fathuse,

Protocol reference number: BREC/00003441/2021
Project title: EXPLORING BURNOUT AMONG FRONTLINE HEALTHCARE WORKERS DURING COVID-19 PANDEMIC IN MTHATHA, EASTERN CAPE, SOUTH AFRICA
Degree: Masters

EXPEDITED APPLICATION: APPROVAL LETTER

A sub-committee of the Biomedical Research Ethics Committee has considered and noted your application.

The conditions have been met and the study is given full ethics approval and may begin as from 03 March 2022. Please ensure that any outstanding site permissions are obtained and forwarded to BREC for approval before commencing research at a site.

Note to PI: Supervisor committed to paying for psychological support privately- whilst this is acceptable- may not be sustainable as participant/s may need multiple sessions- possibly consider the use of free services such as the South African depression and anxiety support group- (SADAG) or the pro bono national health care workers network (HCWN) which provides free counselling. Contact numbers for these organisations may be an option.

This approval is subject to national and UKZN lockdown regulations, see (http://research.ukzn.ac.za/Libraries/BREC/BREC_Amended_Lockdown_Level_1_Guidelines.sflb.ashx). Based on feedback from some sites, we urge PIs to show sensitivity and exercise appropriate consideration at sites where personnel and service users appear stressed or overloaded.

This approval is valid for one year from 03 March 2022. To ensure uninterrupted approval of this study beyond the approval expiry date, an application for recertification must be submitted to BREC on the appropriate BREC form 2-3 months before the expiry date.

Any amendments to this study, unless urgently required to ensure safety of participants, must be approved by BREC prior to implementation.

Your acceptance of this approval denotes your compliance with South African National Research Ethics Guidelines (2015), South African National Good Clinical Practice Guidelines (2020) (if applicable) and with UKZN BREC ethics requirements as contained in the UKZN BREC Terms of Reference and Standard Operating Procedures, all available at <http://research.ukzn.ac.za/Research-Ethics/Biomedical-Research-Ethics.aspx>.

BREC is registered with the South African National Health Research Ethics Council (REC-290408-009). BREC has US Office for Human Research Protections (OHRP) Federal-wide Assurance (FWA 678).

The sub-committee's decision will be noted by a full Committee at its next meeting taking place on 12 April 2022.

Yours sincerely,

Prof D Wassenaar
Chair: Biomedical Research Ethics Committee

Biomedical Research Ethics Committee
Chair: Professor D R Wassenaar
UKZN Research Ethics Office Westville Campus, Govan Mbeki Building
Postal Address: Private Bag X54001, Durban 4000
Email: BREC@ukzn.ac.za
Website: <http://research.ukzn.ac.za/Research-Ethics/Biomedical-Research-Ethics.aspx>

Founding Campuses: Edgewood Howard College Medical School Pietermaritzburg Westville

INSPIRING GREATNESS

APPENDIX C: Permission letter from MRH



Province of the
EASTERN CAPE
HEALTH

Office of The Clinical Manager: Administration Block | Mthatha Regional Hospital | Sison Street | Fortgele | Mthatha | Private Bag 1999
Egondwa/Privatissak X5014| Mthatha | 5100 | ecdoh, South Africa | Tel: 047 502 4010 | Email: askamqwebedu@gmail.com
Enquiries: Mr. O. Mqwebedu Ext: 4010

To	To Whom it May Concern
From	Senior Manager: Medical Services
Subject	Permission to Conduct Research: Mrs N. Fathuse
Date	06 January 2022

Purpose

This office has received and reviewed the request of Mrs N. Fathuse to conduct research titled **"EXPLORING BURNOUT AMONG FRONTLINE HEALTHCARE WORKERS DURING COVID-19 PANDEMIC IN MTHATHA, EASTERN CAPE, SOUTH AFRICA. (EC_202110_020)"**. They will be collecting data from Mthatha Regional Hospital.

This office has **NO OBJECTION / OBJECTIONS** to this request.

Comments:

Regards

Dr V. Mehlo
Senior Manager: medical Services
Mthatha Regional Hospital

06/01/2022.
Date



APPENDIX D: Participant information sheet

INFORMATION SHEET AND INFORMED CONSENT

Participant number: _____

Burnout Among Frontline Healthcare Workers During COVID-19 Pandemic in Mthatha, Eastern Cape, South Africa

Date: 19 April 2021

Dear Sir or Madam

My name is Noluyolo Fathuse from the University of KwaZulu Natal School of Nursing and Public Health. I am currently a second-year student doing master's in public health.

Contact details are as follows:

Cell: 0763368510

Email: 218086512@stu.ukzn.ac.za

You are being invited to consider participating in a study titled: "Exploring Burnout Among Frontline Healthcare Workers During COVID-19 Pandemic in Mthatha, Eastern Cape, South Africa". The aim and purpose of this research is to explore the experiences that the nurses and doctors have with burnout during the COVID-19 pandemic. The study is expected to enroll an estimate of 20-25 participants which will include those who managed and treated COVID-19 infected patients in the hospital. For this study one-on-one face-to-face in-depth interviews will be conducted using the same interview guide for all participants and all interviews will be tape-recorded, with your consent, to maintain the accuracy of information. The interviews will be conducted in hospital after working hours, in a private space. If it happens that at the time of interviews there are COVID-19 restrictions that will not allow face-to-face interaction, the interviews will be conducted telephonically whereby I will call you. The interviews will take about 30 to 60 minutes if you choose to participate. The study is self-funded.

The study is not anticipated to involve any serious risks. However, given the emotional strain and the loss endured due to COVID-19, some of the question may raise some emotions. If you at any point during the interview feel like you cannot cope, either with stress or anxiety, please advise me to either skip that particular question, suspend the interview, or refer you for appropriate psychosocial support services. The study is not anticipated to have direct benefits, however, information shared may help in thinking about new ways to address burnout during the COVID-19 pandemic.

This study has been ethically reviewed and approved by the UKZN Biomedical Research Ethics Committee (approval number: BRECO0003441/2021).

In the event of any problems or concerns/questions you may contact the researcher at:

Cell:0763368510

Email: 218086512@stu.ukzn.ac.za

INFORMATION SHEET AND INFORMED CONSENT

or the UKZN Biomedical Research Ethics Committee, contact details as follows:

BIOMEDICAL RESEARCH ETHICS ADMINISTRATION

Research Office, Westville Campus

Govan Mbeki Building

Private Bag X 54001

Durban

4000

KwaZulu-Natal, SOUTH AFRICA

Tel: 27 31 2604769 - Fax: 27 31 2604609

Email: BREC@ukzn.ac.za

The participation in this research is voluntary and you may withdraw your participation at any point. Should you decide to refuse consent or withdraw your participation, no penalties will be incurred. At the event of withdrawal, please kindly notify the researcher on the provided contact details above.

The data will be collected anonymously and will be kept confidentially by the researcher. The audio recordings will also be stored safely for the period of research and for future referencing.

APPENDIX E: Informed consent forms

CONSENT TO PARTICIPATE

I (Name) _____ have been informed about the study titled:
Exploring Burnout Among Frontline Healthcare Workers During COVID-19 Pandemic in
Mthatha, Eastern Cape, South Africa by Noluyolo Fathuse.

I understand the purpose and procedures of the study.

I have been given an opportunity to ask questions about the study and have had answers to my satisfaction.

I declare that my participation in this study is entirely voluntary and that I may withdraw at any time without incurring any penalties.

If I have any further questions/concerns or queries related to the study I understand that I may contact the researcher at:

Cell: 0763368510

Email: 218086512@stu.ukzn.ac.za

If I have any questions or concerns about my rights as a study participant, or if I am concerned about an aspect of the study or the researchers then I may contact:

BIOMEDICAL RESEARCH ETHICS ADMINISTRATION

Research Office, Westville Campus

Govan Mbeki Building

Private Bag X 54001

Durban

4000

KwaZulu-Natal, SOUTH AFRICA

Tel: 27 31 2604769 - Fax: 27 31 2604609

Email: BREC@ukzn.ac.za

Signature of Participant

Date

CONSENT FOR TAPE-RECORDING DURING INTERVIEWS

I (Name) _____ have been informed about the study titled: Exploring Burnout Among Frontline Healthcare Workers During COVID-19 Pandemic in Mthatha, Eastern Cape, South Africa by Noluyolo Fathuse.

I understand the purpose and the reason to be tape recorded during the interview.

I have been given an opportunity to ask questions about the tape-recording process and have had answers to my satisfaction.

I declare that I voluntarily consent to being tape recorded during the interviews, and that I may withdraw my consent at any time without incurring any penalties.

If I have any further questions/concerns or queries related to the study I understand that I may contact the researcher at:
Cell: 0763368510
Email: 218086512@stu.ukzn.ac.za

If I have any questions or concerns about my rights as a study participant, or if I am concerned about an aspect of the study or the researchers then I may contact:

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4000
KwaZulu-Natal, SOUTH AFRICA
Tel: 27 31 2604769 - Fax: 27 31 2604609
Email: BREC@ukzn.ac.za

Signature of Participant

Date

APPENDIX F: Interview guide

INTERVIEW GUIDE

EXPLORING BURNOUT AMONG FRONTLINE HEALTHCARE WORKERS DURING COVID-19 PANDEMIC IN MTHATHA, EASTERN CAPE, SOUTH AFRICA

Participant code:

1. Research has shown that many healthcare workers experience burnout and more so now during the COVID-19 pandemic. Burnout is described as emotional exhaustion, negative attitudes towards patient and sense of low accomplishments with regards to one own work.
Taking into account what the literature is saying, together with the standard definition of burnout, please tell me how has burnout manifested in this facility? Please elaborate
2. Based on what I have shared about burnout, do you think you may have experienced it during the course of COVID-19? Please elaborate on why do you think so?
3. Please share with me an instance where during the course of COVID-19 pandemic, you may have felt that you and/or your colleagues had increased burnout?
 - a. What had happened?
 - b. How did you handle the situation?
4. Please share with me an instance where during the course of COVID-19 pandemic, you may have felt that you and/or your colleagues had low burnout?
 - a. What had happened?
 - b. How did you handle the situation?
5. How has your practice been affected by the strain imposed by COVID-19?
6. How has COVID-19 affected you personally?
7. How is your practice different now compared to the pre-COVID-19 era?
8. How has your patient relation been affected?
9. As we know that currently there is no cure for the disease, how does this make you feel?

APPENDIX G: “WHY AM I EVEN HERE IF I CAN’T SAVE THE PATIENTS?”: THE FRONTLINE HEALTHCARE WORKERS’ EXPERINCE OF BURNOUT DURING COVID-19 PANDEMIC IN MTHATHA, SOUTH AFRICA” Manuscript



Article

“Why Am I Even Here If I Can’t Save the Patients?”: The Frontline Healthcare Workers’ Experience of Burnout during COVID-19 Pandemic in Mthatha, South Africa

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Abstract: Introduction: Globally, the high prevalence of burnout in healthcare workers (HCWs) is of the utmost concern. Burnout is a state of emotional exhaustion, depersonalization and a decreased sense of personal accomplishment. While the 2019 Coronavirus (COVID-19) exacerbated the burnout prevalence among HCWs, limited studies have explored this phenomenon using qualitative methodologies in the Eastern Cape Province and South Africa generally. This study explored how frontline healthcare workers experienced burnout during the COVID-19 pandemic in Mthatha Regional Hospital. Methods: Ten face-to-face in-depth interviews were conducted with non-specialized medical doctors and nurses who directly cared for COVID-19-infected patients during the pandemic in Mthatha Regional Hospital (MRH). In-depth interviews were digitally recorded and transcribed verbatim. Data were managed through NVIVO 12 software before being thematically analyzed using Colaizzi’s analysis method. Results: Four main themes emerged from the analysis. These themes were burnout manifestation (emotional strain, detachment and irritability, uncertainty-induced fear, and anxiety, physical exhaustion, yet, low job accomplishment, dread and professional responsibility), precursors of burnout (occupational exposure to high mortality, staff shortages, elongated high patient volume and workload, disease uncertainties and consistent feeling of grief), alleviating factors of burnout (time off work, psychologist intervention, periods of low infection rate and additional staff), and the last theme was every cloud has a silver lining (improved infection prevention and control (IPC) measures, learning to be more empathetic, the passion remains and confidence grows). Conclusion: The COVID-19 pandemic brought about a rapid change in the work environment of healthcare workers who are the backbone of efficient healthcare services, thereby rendering them vulnerable to increased burnout risks. This study provides strategic information for policymakers and managers on developing and strengthening welfare policies to promote and protect frontline health workers’ well-being and work functioning.

Keywords: burnout; frontline healthcare workers; COVID-19; pandemic; Mthatha



Citation: Fathuse, N.; Hlongwana, K.W.; Ginindza, T.G. “Why Am I Even Here If I Can’t Save the Patients?”: The Frontline Healthcare Workers’ Experience of Burnout during COVID-19 Pandemic in Mthatha, South Africa. *Int. J. Environ. Res. Public Health* **2023**, *20*, 5451. <https://doi.org/10.3390/ijerph20085451>

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1. Introduction

Since the discovery of the concept by Freudemberger in 1974, burnout has gradually been recognized as a psychological phenomenon with personal, professional and organizational consequences, which affect both the quality of services rendered and personal well-being [1–3]. In his study, Freudemberger observed certain traits among overworked personnel in a free clinic in New York. What was apparent in these workers were physical and behavioral symptoms, including fatigue, exhaustion, recurrent headaches, insomnia, gastrointestinal problems, shortness of breath, anger, frustration, depersonalization, use of substances to induce sleep and depression. He concluded that what he had observed was “burnout” [2,4], a phenomenon that he attributed to emotionally demanding, exhausting

and underpaying workplaces, requiring personal involvement and self-motivation [3,4]. Building on the foundation laid by Freudenberg, Maslach expanded the definition of burnout as a syndrome of psychological response to chronic emotional and interpersonal stressors on the job, consisting of three dimensions, namely emotional exhaustion, depersonalization and decreased personal accomplishment in people who consistently work with people and their problems [2,5,6]. To date, Maslach's work has become an authority in the field of burnout [4]. Taking it a step further, the World Health Organization (WHO) has classified burnout as one of the factors influencing the health status of professionals who experience poorly managed chronic workplace stress [7].

Predominantly, burnout is assessed using Maslach's Burnout Inventory (MBI), a questionnaire that measures the three dimensions of burnout [4–6]. Maslach and colleagues developed the (MBI) as a popular practical quantitative measurement tool for burnout across a diverse occupational spectrum [4,8].

Due to the nature of healthcare workers' (HCWs) work, they are at increased risk of burnout [9], as shown by the global burnout prevalence among HCWs [10–12], which ranges between 18 and 82% and is highest among nurses and doctors [13–15]. In sub-Saharan Africa (SSA), the prevalence of burnout varies between 40 and 80% [11]. Burnout among HCWs is not a new problem, as the 2003 cross-sectional survey involving 132 district-level doctors from 27 facilities around the Cape Town Metropolitan Municipality in the Western Cape revealed that 73% of medical doctors had burnout [12,16]. In 2020, a survey conducted in KwaZulu-Natal, which followed the three dimensions of Maslach's Burnout Inventory (MBI), revealed a burnout prevalence of 59% among medical doctors [17]. Lack of hospital resources, poor infrastructure, lack of clinical support from supervisors, poor working conditions, staff shortages, working overtime, high workload, lack of organizational support, inadequate salaries, dealing with crises at work [12,17,18] have all been reported as significant contributors to burnout. These challenges are pervasive among HCWs [19].

The 2019 coronavirus (COVID-19) pandemic created conducive conditions for burnout to thrive among HCWs, given substantive changes in their usual practice and the delivery of services to patients [18]. As of 18 July 2022, nearly four million (3,999,751) positive cases and over one hundred thousand (101,918) deaths had been reported in South Africa since the first case in March 2020 [20]. The sharp increase in COVID-19 morbidity and mortality put pressure on HCWs' workload, who had to contend with the overwhelming ethically and emotionally wrenching decisions of allocating scarce resources, the risk of infection and infecting family members, and the trauma of losing loved ones and colleagues to the incurable virus. These factors have caused significant emotional exhaustion, physical exhaustion, anxiety, depression and powerlessness in HCWs' ability to manage their patients, thereby rendering them vulnerable to burnout [8,9,21–24]. The current evidence suggests that COVID-19 frontline HCWs in designated COVID-19 wards were exposed to extraordinary stress [25–27].

Frontline HCWs' health and safety are of the utmost importance, given their role in patient care, more so in such time as the COVID-19 pandemic [25]. Few studies conducted during the pandemic showed that HCWs directly caring for COVID-19-infected patients suffered a myriad of mental, emotional and physical challenges, including burnout, and these studies have, to some extent, been associated with gender, age, profession, marital status and level of experience [9,18,25]. Therefore, it is important to acquire an in-depth understanding of how HCWs in MRH have experienced burnout during the COVID-19 pandemic, with a view to guiding the development of interventional support strategies for future pandemics [24]. To the best of our knowledge, there are currently no studies exploring HCWs' experiences of burnout in the Province of Eastern Cape using qualitative methods.

2. Materials and Methods

2.1. Study Design

A study using exploratory qualitative design was conducted to gain deeper insights into the manifestation of burnout in HCWs during COVID-19 from the participants' perspectives.

2.2. Study Setting and Participants

The study was conducted in MRH, Oliver Reginald (OR) Tambo district in Eastern Cape, South Africa. The MRH has specialist departments, such as internal medicine, family medicine, obstetrics and gynecology, surgery, anesthesia and pediatrics. However, for this study, we recruited nurses and doctors who had been assigned to COVID-19 wards, as they were most likely to be severely affected by intimate and sustained exposure to caring for patients diagnosed with COVID-19. Notably, during the COVID-19 pandemic, specific areas were turned into COVID-19 specialized wards, as the rapid spread of the disease could not have been anticipated. Using purposive heterogeneous sampling, we recruited doctors and nurses who had been displaced from their original departments to COVID-19 wards. The heterogeneity nature of our sampling enabled us to ensure a good mix of participants in terms of occupation, experience, gender and age. Lunch breaks were used to conduct in-depth interviews, and this arrangement had been cleared by the facility management. The sample size was determined through data saturation, which was reached at ten in-depth interviews, a point where no new themes emerged from the in-depth interviews. The literature asserts that data saturation can be reached at ten in-depth interviews with information-rich participants [28–30].

2.3. Data Collection

Using the interview guide approach, between 23 March 2022 and 4 May 2022, we conducted in-depth face-to-face interviews in English with ten participants, at a time (lunch breaks) and place convenient for them. The interviews lasted an average of 26 min (14 to 49 min). All participants signed informed consent before being interviewed, and the interviews were tape recorded (with the participants' permission). The in-depth interview explored how burnout manifested in those involved in caring for patients with COVID-19 (covering different elements of burnout), the effects of burnout on their health and patient care, as well as the effects of burnout on how they perceived their professions. To enhance the depth of the data, probing and practical questions, such as "What had happened?"; "How did you handle the situation?", were also used. The interview was concluded by soliciting the participant's socio-demographic information. For confidentiality purposes, participants were de-identified during the analysis.

2.4. Data Analysis

Data collection and analysis were performed iteratively. The audio recordings of the interviews were transcribed verbatim by the lead researcher and were then analyzed using Colaizzi's method of analysis [31]. The process included reading the transcripts several times to understand and become familiar with the data, identifying relevant statements and making meaning of them, and organizing the data into categories, common themes and sub-themes [31] with the assistance of NVivo12 software [32]. The analysis was conducted inductively, thereby allowing themes to emerge from the data.

2.5. Measures to Ensure the Trustworthiness of the Study

To ensure the trustworthiness of the study, we followed Lincoln and Guba's [33] guidance on credibility, transferability, dependability and confirmability. These were achieved through debriefing sessions after the initial interviews, providing a thick description of the study participants and the context, using verbatim quotes to support the findings and properly documenting the study processes. Since the lead researcher is a HCW herself and holds views on the subject matter, she constantly used bracketing to ensure that the study findings were free from her personal beliefs, values and opinions while maintaining rigor.

3. Results

The study participants comprised six doctors and four nurses involved in caring for COVID-19-positive patients during the pandemic, with the ages ranging from 26 to 46 years and the majority (70%) being females. These participants were recruited from their original departments of work, including family medicine (three), internal medicine (three), gynecology (one), labor ward (one), general surgery (one) and high care (one). Eight and two participants were single and married, respectively. By designation, among the nurses, three were professional nurses and one was an enrolled nursing assistant compared to five medical officers and one family medicine registrar. The duration of working with confirmed COVID-19 patients ranged from 1 month to 24 months. Notably, the results of this study are analyzed without any emphasis on the specificities of the professionals interviewed (doctors vs. nurses). During data analysis, four main themes and sixteen sub-themes emerged from the analysis. These themes were burnout manifestation, precursors of burnout, alleviating factors of burnout, and lastly, every cloud has a silver lining (Figure 1).

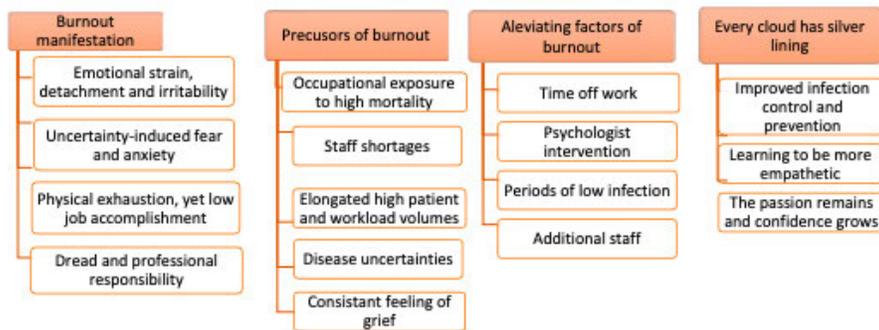


Figure 1. Themes and sub-themes from data analysis.

The main themes and sub-themes captured the strains and learning opportunities presented by the COVID-19 pandemic.

3.1. Theme 1: Burnout Manifestation

3.1.1. Emotional Strain, Detachment and Irritability

The first sub-theme under burnout manifestation was the emotional strain, detachment and irritability attributable to the high number of critical patients, the number of deaths, feeling inadequate to help the sick, dealing with panicking patients and grieving patient relatives, as well as infected colleagues, and generally, the change in the nature of their practice. As a result of the high rate of mortality, resource constraints and concern for their own well-being, participants eventually developed some emotional detachment from their patients. This increased their irritability, thereby failing to react diplomatically in situations, and this irritability also affected family members in home settings.

“it’s been hectic for all of us and most of us we’ve been hands-on, have been complaining majorly of the emotional strain that comes with it . . . It involved a lot of uhm- in fact long working hours and the high number of patients that we were seeing. So, it was involving mostly all of the aspects of our being. So, it came with emotional stress.” (D1)

“You definitely experience the emotional exhaustion ‘cause you are losing patients. So that definitely takes a toll on you ‘cause [because] you feel like why am I even here if I can’t save the patients? . . . Patients are not the same, like, I mean, you’ll have a patient

that will come in well, and then the next day patient has demised. Like that patient will affect me emotionally, more than someone who's been unwell since the beginning.” (D2)

“yeah It's emotionally draining, it's emotionally exhausting, because sometimes you would think I wonder what happened to the patient, because when I left, she was like this and this and this. And then when I come back . . . and that thing you would think about it for even a week.” (N4)

“Uhm Because some of those patients were panicking it was emotionally exhausting, because we'd try to explain to someone uba (that) you have to do this and this and people were panicking, they'd take out the oxygen” (N3)

“And it's not just, it's not just about the work itself, per se, during the second wave, it's about the fact that you are not only dealing with the patient, you're also dealing with their families, right. So, you are dealing with families, you're also dealing with colleagues, colleagues with relatives that are also having severe form of COVID. So, there is a lot of emotional, I mean, you have- passing through a lot emotionally in terms of seeing your colleague losing their own relative, losing their own parent, losing your own colleague.” (D3)

Emotional strain also affected how HCWs cared for the patients, given that health outcomes were usually poor.

“Because many times we know as health workers our aim is to salvage as much as possible of life as we can. But then during my COVID ward cover, many times, I had really little emotional attachment towards patients, and whatever the outcome I was not even moved. So, it was more like I'm just a robot doing work, I don't really care much about the outcome because many times most of them will die. So, I think, personally, the main manifestation was my attitude towards patients, which is not yeah, ideal.” (D5)

The emotional strain and detachment had a ripple effect on HCWs, as they increasingly became irritable, even in circumstances where they would normally react diplomatically. This irritability affected family members in home settings as well.

“A part of you empathizes and sympathizes with the patient right. But if- when there's nothing else, you've given them salbutamol nebs and oxygen, sometimes they do not feel the oxygen it goes up to 15 up to 20 You feel like there's nothing more I can do you feel like a bit irritated and tired as to, but there's nothing else I can do, everything that was prescribed and above that I've done, but there's nothing the patient is still in distress.” (N4)

“So, you will, I think I had even myself personally noticed there was a time my wife said, “You know what, now you are, you no longer talk to the kids, you shout at them all the time . . . you get home you are tired physically, let alone emotional-emotional tiredness, you are physically tired. There's emotion, there's a child that does not understand what is going on. They just want their father's love. So, you will, for a small thing, you will find shouting at the kids because you are tired... I was at that point of burnout.” (D6)

“ . . . and there are times you would even become irritable for no reason because we were going through a lot. There are times that you would find yourself not as receptive to the relatives of the sick one as much as you supposed to be and even towards colleagues because we would all be irritable at different points in time. So, it brought up characters we never thought we would be demonstrating to people around us.” (D1)

3.1.2. Uncertainty-Induced Fear and Anxiety

The infectivity of COVID-19 and the mortality rate thereof induced fear and anxiety on HCWs. The fear of contracting and possibly dying from the disease while caring for patients was an overriding feeling, to a point of distrusting the personal protective equipment (PPE).

“Mmh ok, I think a whole lot of us just had anxiety, like a lot of anxiety, 'cause you're doing so much but your patients are still dying so you feel like you're not doing enough, but at the same time, we have our own anxiety with regards to- just like COVID, in the beginning anyway, with regards to COVID because you don't know am I gonna get it?”

Did I sanitize correctly? Is my PPE—like did I wear my PPE correctly? Did I take it off correctly?... But I always was like thinking at the back of my mind, the smallest thing “I have a headache- do I have COVID?” “I have a scratchy throat- do I have COVID?” You know. So, I just walked around with a whole lot of anxiety so I didn’t actually actively do anything about it.” (D2)

“You’re feeling unsafe for yourself and especially the people you live with at home, if you’re someone who lives with people, if it’s elderly people, if it’s kids. And every new wave brings a new characteristic or things like that. So, you’re always nervous you’re feeling unsafe, you’re unsure if you’re gonna make it that’s, I think that’s the biggest worry, unsure if ok I’m gonna work because it’s my job, but if I get it again, am I gonna be safe again?” (N1)

“And patients are also anxious, the doctors are also anxious about what’s gonna happen, am I gonna get COVID and all that, yet you still have a lot of patients to see.” (D3)

3.1.3. Physical Exhaustion, Yet, Low Job Accomplishment

HCWs also experienced physical exhaustion imposed by increased workload and work demands and long working hours; yet, there was no sense of job accomplishment, given their inability to save COVID-19-infected patients.

“But then there’s also just like the physical fatigue ‘cause now you have so many more patients, even working in casualty uhm like you have so many more patients than you would normally, and your patients are so sick, so you like doing much more.” (D2)

“And it was just feeling tired, working overtime. I remember some other days we would go out at 10 midnight because we had so much to do and the night staff would come late and there were few people to work around with, so personally it was very hard” (N2)

However, hard work did not match health outcomes, thereby creating a low sense of job accomplishment, and the fact that patients were indulging on information from the media platforms did not make things any better.

“Now that patient will not have confidence in you . . . and now you will find yourself in the back foot in winning a battle with the patient. How is he gonna trust you about any other thing now that we’re gonna say. So, COVID will make you feel you are smaller when it comes to treating patients, especially if you treat someone who’s current with news and what is going on” (D6)

D2 added:

“And the other thing about COVID, especially the first wave is that you sort of didn’t know what to do. So, you felt like you are powerless. It literally felt like you are powerless and . . . you were just standing there watching the patient die . . . I felt like I have no idea what I’m doing. And I’m just completely useless being here. Like, I felt like I’m just here for my patients to think, Okay, we have a doctor, but actually, this doctor doesn’t know what he’s doing, so yeah”

N1 further attributed her inability to perform her duties efficiently to resource constraints.

“You know what, if you have patients that are dying on your watch and you know there’s something you could’ve possibly done had the facility had such uhm treatment maybe, equipment maybe, that could’ve helped a patient at least, you go home feeling like a failure because you know “I studied this in the book, I could’ve done this if I had this to work with.” (N1)

D5 further expressed that not being able to achieve what you were called to do yields zero accomplishment.

“I think the time I was covering COVID ward personally, the death rate, was more than 80%. So being a doctor, knowing that your call is to save lives, but then you’re not saving any. So, I don’t feel like I’m accomplishing anything, anything during the COVID Ward

cover, because patients kept on dying, no matter what we tried to do. And so, it was like, zero accomplishment, just being there as a robot to certify deaths actually than to save lives."

3.1.4. Dread and Professional Responsibility

The difficult period created a dreadful climate, took away HCWs' enthusiasm about their work, but they still felt that they had no choice but to show up and fulfil their duties.

"We cope, we push as much as . . . as hard as it was. But you had no choice, you wake up the following day you still come to work even though you know that it's hard." (N2)

"And every time you have to wake up and come to work, it would be a struggle, because we were so exhausted. The interest in coming to work was almost zero. But because we had to push through, we didn't have a choice we went on." (D1)

3.2. Theme 2: Precursors of Burnout

3.2.1. Occupational Exposure to High Mortality

Occupational exposure to high COVID-19 mortality rates imposed emotional exhaustion on HCWs in a manner that ultimately culminated in burnout.

"So, because of the toll of seeing people dying every day, so initially, every time you get home, [you are] very emotionally exhausted. But then over time, like, I don't really feel anything towards whatever's happening to my patient . . . So the number one cause was the rate of death. So, there was a high mortality rate, and at the same time, not being able to do anything for the patients, there's no medication, the hospital is poorly equipped. So, there's nothing much we could do. So, the rate of death was so high that and at the same time not being able to intervene. So, I think that was the number one moral killer in a way . . . So, it was the first experience where by yes, you are a doctor and ahhh you have more deaths than people living. So, it was the first experience whereby, like, you see death left, right, and centre in a day, like that. So, I think it was- I had no previous encounters of such high death toll." (D5)

"And eh-eh during first wave and second wave there were lot of deaths as well, so that created a lot of emotional burnouts. It was not easy." (N2)

3.2.2. Staff Shortage

All participants conceded that staff shortage contributed to their feeling of burnout. The family medicine doctors were further stretched thinly because, even though they had their allocated time in the COVID-19 designated wards, they would still have to find the means to capacitate the casualty and outpatient departments.

"Uhm there was one time that I was working with only one other category of nurse that was the lower category. And we had about 13 patients, just the two of us, 13 patients, majority of them were on oxygen and oxygen on respiratory distress, and others are very confused, trying to jump out of bed. "Nje" [So] it has been very hectic, it's been made worse by a shortage of staff, because we do not have staff at all, at all. If you're lucky, you'll be like five in a team. And nurse-patient ratio is just not adding up, does not add up at all." (N4)

Over the course of the pandemic, the hospital contracted nurses to meet the staff demands, and N2 shared how, during the times when there were no additional nurses, the burnout was more.

"One may say that coz [because] in the beginning there was no one employed specifically for COVID, so we had to extract employees from the other wards to come and work in the COVID ward, so that created so much eh-eh-eh confusion and more of burnout, because people didn't wanna [want to] come and work here, so we had short staff. We were so short staffed . . . So, imagine the staff that used to work in one ward having to be split into three wards and some of us are on quarantine. So, it was- there was that time though

I'm not specifically sure was it wave 3 or wave 2. But I think it was wave 2, because it was most hectic of them all . . . But after we got our contract workers it became more easier as we got more staff to work around and uh-h things got better" (N2)

3.2.3. Elongated High Patient and Workload Volumes

The COVID-19 era caused a rapid increase in patient volume in the hospital, thus increasing the workload and the number of hours for the personnel, particularly during waves 1 and 2 of the pandemic. COVID-19 exacerbated the distress experienced by HCWs prior to the pandemic.

"The high number of patients that were coming were not easy to manage. So, we would get very large numbers, I would say more than 6 or 7 times the number of patients we would normally find before COVID or in between the waves. So, the major factors were the shortage of staff and the number of patients that were affected and needed that medical attention." (D1)

"You find that the workload now is too much on the people who are on the ground and the numbers would be quite high. So, I think during the second wave, it was just too much." (D4)

3.2.4. Disease Uncertainties

The rapid development and evolution of COVID-19 posed a certain level of uncertainty with regard to the knowledge of the disease, the required care and even the adequacy of personal safety precautions.

"So, I think, during the first COVID wave, when- so obviously, none of us was really like, well up to date with COVID and how it works, except just seeing people dying a lot." (D5)

"So, it makes you feel like I don't have- immediately feel like that's what could easily have could have triggered people to go to burnout and even depression because who do you talk to, who knows better in this? There's no one else. It's you and what you read. Everybody is reading the same thing, it's new every day. There's something that is released. So, it makes you feel like you don't- you're isolated -you're on your own. If you die, you will die and no one is sure how to treat- a definite treatment for the condition. It caused a lot of stress." (D6)

Not knowing when one is protected enough from contracting the disease increased uncertainty, asserts N4:

"No matter how much precaution you thought you took, the mask, the gowns, gloves, shoe covers, head covers, but there's always that eish, maybe it's I don't know, because firstly, . . . when the disease was, was here first, it was said it was transmitted through droplets. So, we needed to wear mask. . . . now you kind of feel like, what if it's airborne now? It's no longer about droplets to need to be in a certain distance away from the person. What if it's airborne now? So, a part of you feels like maybe the air can leak into the mask." (N4)

3.2.5. Consistent Feelings of Grief

The unfamiliar rapid disease progression left HCWs wondering about the constant experience of such catastrophic events, the deaths due to unclear pathologies. Dealing with grieving relatives left them with emotional strains beyond work environments, to a point of having dreams and nightmares, hearing the screams of relatives.

"Because, at times, I would be sitting in my room thinking "how did we lose so and so?" or thinking; when I called a certain family, how a person reacted. Or maybe you would be sleeping, and then you wake up in a dream hearing a person crying. So, it does, like affect you as a person emotionally." (N2)

"No, no, no, definitely not. The- more than the patient dying in front of you, that has COVID, what-what-what, you-what would ehh remain something ringing in your mind

is what the relative say, when they felt like as health professional, we didn't do enough for their patients." (D6)

3.3. Theme 3: Alleviating Factors of Burnout

3.3.1. Time off Work

The doctors took rotational time off among themselves as a strategy to decrease exposure to COVID-19 infection, reduce burnout and also alleviate physical exhaustion.

"Ok we also did like rotations, and we took weeks off so I think that also helps, 'cause you'd come back from your week off think "ok I'm good, I can do this" Uhm and then you start the week and by Tuesday afternoon you "ok I need to go again". So, it wasn't always that bad, I think the breaks and the rotations made a difference." (D2)

"We tried to take time off, but it was not always possible. Sometimes you find that you, with the person that you're working with, you may be in for two days, then the other one is off then when you come back, when the other one comes back. You take off just to relax. But it was not always possible that we will get off." (D4)

3.3.2. Psychological Intervention

HCWs also revealed that the psychological support they received from the hospital helped them cope better, and simply knowing that it is accessible was reassuring.

"So, there's so much emotion involved during the second wave. So that you felt that at the point that some of us will be needing counselling and the hospital actually provided avenue for those that felt that they needed counselling themselves, needed the support, they had that opportunity to get counselling, and so . . . I feel that the fact that you have that opportunity, that service available for you, the fact that you know that it's available, so it's already reassuring that okay, at a point, I may need to go there myself. Others went there, so, I definitely believe that it helped. The fact that it's even available, is helping in that regard." (D3)

"I quickly tried to adjust the mind and it's I think it's also the time they tried to bring the psychologists to talk to us about the ways of coping and what the way how we can get help in getting our minds putting our minds at ease with the COVID. I think that played a crucial role, because it came in the first wave. So therefore, once we got there, and then you start to think, and then you come at peace, then you could cope unless you don't have even that support-nyana [small support] from the psychology psychiatry side of things to be able to put things in patterns for you and do what you can." (D6)

3.3.3. Low Infection Rate Periods

The periods of low mortality and morbidity reduced burnout.

"For-the- I think the fourth, third-fourth waves, the patients that we were seeing, what makes me feel like burnout was not as maximum as it was on the second wave, the number of patients that we were seeing was lesser and uhm the patients that we were seeing were not in very bad conditions. We would have the patients who are symptomatic, but quite stable, that wouldn't need prolonged attention or mmh a long number of interventions to do. So, I think that's what made us relax a bit, because the patients that we would be seeing were not in a severe disease, if I may put it that way, and the numbers were not many." (D1)

3.3.4. Additional Staff Members

The recruitment of additional nurses to meet the COVID demands meant that the workloads were fairly distributed, and the load became a little lighter.

"But after we got our contract workers it became more easier as we got more staff to work around and uh-h things got better" (N2)

“Oh, the contract and then was renewed at the end of January. So that how it was somewhat by remedial but it was only about two people that were added. So, it wasn’t that much of a help but it was not the same as only two people on duty with that number of patients.” (N4)

3.4. Theme 4: Every Cloud Has a Silver Lining

Even though the pandemic had been a very challenging time in the practice of these HCWs, causing them burnout, some good came out of it, in line with the saying “every cloud has a silver lining.” The COVID-19 pandemic brought some important lessons.

3.4.1. Improved Infection Prevention Control Measures

The COVID-19 pandemic reinvigorated the basic infection prevention and control (IPC) measures, which had been neglected in the pre-COVID-19 era.

“So, I think that’s one thing that it’s changed for me, it has made like, protecting myself so much more important, you know, now I work with “could this patient have TB?”, cannot really come close to him or her without wearing a mask. Like now it’s not just about COVID. And these are things that we should have been worried about even before. But we’re just very chilled about it . . . now I must always wear a mask when I come close to a patient, I must always wear gloves when I touch a patient, I must always sanitize like, before I touch a patient, after I touch the patient, like I literally go home at the end of the day, and my stethoscope is sticky, because after every patient I examined, I’ll clean it with the sanitizer.” (D2)

“Uhm, I think more than anything, COVID has made us aware of any other things that we were not paying attention to like your cleanliness, your coughing and sneezing etiquettes and things like that. And now, I feel like we are trying, we are far from the end, but we are now trying to practice more of safer ways more cleaner ways, hygiene, and things like that. Ahh ja I feel like now we are more aware of such things than before, as practitioners and myself personally really.” (N1)

3.4.2. Learning to Be More Empathetic Again

Some participants reported having returned to being empathetic again to their patients after COVID-19 caused emotional numbness.

“So, it got us to be more receptive to our patients to be more empathetic to our patients. I think it’s- it’s out of, I don’t want to say it’s out of guilt for having not done it or for having been unable to do it during uhm the peak waves, but it has taught me specifically that, it has taught me how important it is to interact on an empathic level with the patients. It improves- it’s got eh-an impact on their healing on their way to healing, it’s got an impact on their way to disease resolution, as much you find that we attending to clinical conditions, but there is always an emotional and a psychological aspect of things. So, I feel like we are now more receptive to patients when it comes to their emotions and their psychological aspects in disease, specifically.” (D1)

“Now a COVID patient doesn’t feel like just a patient with a diagnosis. Now, I want to understand cause my relative when he had COVID I mean, he was calling me all that he didn’t say he was scared because grownups, but like, I understood that, Ok, so as a doctor in the family, he feels like I’m someone that he can, someone that he can call and be asking questions about his condition and all that. So, I think I think now I’ve understood patients more. Yeah, or better, rather.” (D2)

3.4.3. The Passion Remains and Confidence Grows

Some participants shared the zeal that they still have for the work they do, despite their burnout experience, while others recognized that the unusual COVID-19 experience presented an opportunity for learning new skills and growing their patient care experience.

“Uhm, sheez...uhm, I feel like a soldier really (laughter). I feel like a soldier. I soldiered through a pandemic and contracting COVID three times and still coming to work and still not have quit my job. I feel like I am- I came out stronger. Obviously, there was burnout, there was things like that, but I feel like I came out strong. I came out more willing; want to know more, obviously do more with the employer’ support or the facility support because the most demotivating thing is wanting to do more and know more and not have the resources to do all that.” (N1)

“So, in a way, because opened up my, my mind, professionally as to how to tackle and better intervene and better manage the patient. Because from past experiences as to how it was managed, so now you’re like, okay, this is how it was managed. Maybe if I try it like this, it might help.” (N4)

“So, on my side when I see a severely ill patient I go with motivation because most of the management principles and the skills for managing these patients have improved a great deal. So, there is a lot of improvement of how we manage- on how I manage the patients that I see, especially now that we are in a relaxed environment. Taking from the experience that we would have to work under pressure and be in a hurry, so now that we are in less pressure it’s easier to be precise and it easier to be proper in managing our severely ill patients. I would say the positive part about it is that we developed, or we fine-tuned a lot of skills in managing these patients.” (D1)

“But I can say now it has made me stronger, more independent, more eager but also more cautious of how I do things because anything can happen at any time.” (N1)

4. Discussion

The results of this study revealed how the COVID-19 pandemic rendered HCWs in MRH vulnerable to burnout, which manifested as emotional strain, physical exhaustion, anxiety and fear, low sense of job accomplishment, emotional detachment, irritability and dreading work, but without neglecting their responsibility. High COVID-19-related mortality, increased work volume, staff shortage and constant feelings of grief affected HCWs in COVID-19 wards. Psychological support from the hospital and the additional personnel mitigated the impact of COVID-19 on HCWs and improved their resilience.

Due to the COVID-19 morbidity and mortality, high workload, long working hours, resource constraints and feelings of job-related inadequacy related to poor recovery rates of patients, all participants experienced emotional strain. This was consistent with the literature, which posits emotional exhaustion as the central construct of burnout [3,34]. Similarly, a cross-sectional survey of 892 Spanish nurses working in COVID-19 hospital wards reported high levels of emotional fatigue, mainly associated with long working hours with COVID-19 patients and limited nursing experience [35]. However, in this study, we did not explore the relationship between work experience and burnout, but consistent with the literature, high workload, staff shortages and limited resources were important factors in burnout [3,11,24,36]. Similar to other studies [25] on COVID-19 and other viral outbreaks [34], we found that high mortality imposed emotional distress on HCWs. Poor health outcomes related to COVID-19 cases saw HCWs demonstrating negative attitudes towards the patients, developing callous feelings, in line with depersonalization, as one of three of Maslach’s dimensions of burnout [5,6]. Depersonalization is a way of coping with workplace-related emotional stress by guarding and moderating the level of compassion to patients [3]. This could also be called negative and callous attitudes towards patients [3,6]. In contrast to our results, nurses working in COVID-19 wards in Spain had low levels of depersonalization; instead, deeper connection with patients and empathy were formed [26]. However, in the literature, depersonalization among HCWs remains prevalent [11].

The impact of emotional strain and detachment led to irritability, which extended to home settings, a phenomenon congruent with the results of self-reported observation by Malaysian front-line HCWs who experienced burnout [37], frontline HCWs in Italy [38] and in Guillermo et al.’s meta-analysis [15].

COVID-19 created fear and anxiety among HCWs, a phenomenon not unique to this study [39], as they feared that they would contract COVID-19 and die or at least transmit the virus to their loved ones. This uncertainty left them anxious and fearful for what tomorrow held for them regarding their protection, to the point of distrusting the PPE at work [40]. This common occurrence of anxiety and fear among HCWs was not surprising, given the unpredictability and transmissibility of COVID-19 [18,25]. Molina-Mula et al. [35] also found that HCWs experienced anxiety and fear due to similar factors and also found the working experience a protective factor. HCWs were suspicious of any symptoms, such as headache or sore throat, especially if they had been around COVID-19-confirmed positive patients, as was the case in a study by Liu et al. [25].

Our study participants reported high levels of physical exhaustion, thereby threatening HCWs' resilience at MRH. The high volumes of patients, increased job demands, long working hours in unfamiliar conditions and caring for critically ill patients with poor treatment outcomes were pervasive across the entire health system [18,24]. This was as strenuous an experience for HCWs as had been reported in China [24,25]. The extent of exhaustion was so severe that Liu et al. described their state as "collapsing" as soon as they reached their living quarters [25]. Physical exhaustion was also observed among the physicians in Jordan [18]. Sun et al. interviewed 20 nurses at First Affiliated Hospital of Henan University of Science and Technology who were caregivers to COVID-19 patients, and they described their physical exhaustion as extreme as well [32].

The fact that hard work put in by HCWs in caring for their patients did not match the outcomes created a feeling of inadequacy and powerlessness. Patients' overindulgence in information from the media disempowered HCWs who did not have extensive knowledge of the disease. Their inability to save patients' lives in their care created a sense of low accomplishment, which is one of the three dimensions of burnout discovered by Maslach and Freudenberger in the 1970s [1,5]. This is an important source of emotional distress for HCWs [24,41]. For them, there was no appropriate reward for their work, which is consistent with what has been found elsewhere [3,42]. De Hart also depicts five stages of burnout. Among them is the stage of chronic stress during which, he argues, individuals are made to feel like failures, ineffective in their roles and incompetent and inadequate [43]. Nurses in the United States of America also reported similar feelings during the pandemic [39].

The working conditions during the COVID-19 pandemic were so strenuous and unbearable, to the extent that HCWs dreaded going to work but held their heads above water to uphold their professional responsibility. This reluctance to work was also reported in a scoping review by Robertson et al. [9]. These results are similar to the findings of a Malaysian mixed-method study of over 1000 HCWs from various healthcare settings. Participants experienced a loss of enthusiasm for their work during the pandemic [37]. The South Korean study conducted during a Middle East Respiratory Syndrome (MERS) epidemic presented similar findings of HCWs opting to avoid working with infected patients but being bound by professional responsibility to provide care [44].

In our study, although not always possible, doctors made internal arrangements for rotational breaks to limit exposure to COVID-19 infection and reduce burnout and physical exhaustion. To meet the increased workload demands, which imposed a significant strain on HCWs, the government recruited additional nursing staff. These strategies are supported by the evidence, which suggests that long working hours are associated with poor inter-shift recovery, leading to more work stress and exhaustion, with the inverse being helpful in alleviating burnout during pandemics [23,36], and recruitment of either volunteers or part-time workers to give time-out to the permanent staff is recommended to reduce the strain [45] during the pandemic. This is in addition to adjusting staffing levels to meet the demands of the pandemic [46]. HCWs in China had the same need for more HCWs to meet the workload demands to ensure the quality of care [25].

Psychologist intervention was another important government intervention identified in our study. HCWs were provided with the option of psychological counselling sessions in order to equip them with pandemic coping and protective strategies. The knowledge

of the availability of this option was soothing for HCWs, a strategy that had been used in China [25] and in other previous viral outbreaks [18,23]. This strategy can also be used to minimize risk for those on the pandemic frontline but not yet experiencing burnout [23,40].

On the brighter side, and without downplaying the devastations of the COVID-19 pandemic, participants reported high awareness of IPC measures, such as screening patients, maintaining hand and respiratory hygiene, and wearing masks and PPE, because of COVID-19. These IPC measures had been neglected in the pre-COVID-19 era, negating the WHO recommendations on protection measures against viral outbreaks [47,48]. Consistent with these reports, HCWs in China also reported improved IPC compliance during the COVID-19 outbreak [47], and strict IPC guidance was reported to alleviate stress [49].

Despite undergoing an experience of emotional detachment towards their patients, the participants in our study eventually regained empathy and compassion, as COVID-19 affected their close relatives. This shift compelled HCWs to recognize the suffering of their patients and understand that they are treating the person and not the illness, noting that empathy goes with listening, respecting, communicating well and understanding. These are the backbone of effective medical care [19,50].

Qualitative studies are important in order to complement quantitative studies and create a holistic picture of all the challenges underpinning burnout, especially within the context of COVID-19. As a strength of this study, the rigorous method of data analysis employed illuminates the deeper level of HCWs' shared real-life experiences of burnout. To our knowledge, there are no COVID-19-related burnout studies on HCWs in the Eastern Cape Province, and contrary to other studies, our study showed that despite the dark cloud imposed by COVID-19, there is a silver lining.

Although the study produced important findings, especially for MRH management, the transferability of the findings would be limited, given that the study was conducted in one health facility and confined to nurses and doctors, thereby excluding other healthcare workers involved in the care of COVID-19 patients. Although we contend that data saturation was reached, additional insights may have emerged with a larger sample size. Secondly, the study did not make comparisons between the two professions (nurses and doctors), as that fell outside the study objectives. Future studies should consider incorporating other healthcare professionals involved in patient care using mixed methods.

5. Conclusions

Healthcare workers are the backbone of effective healthcare services, but the nature of their work predisposes them to burnout. The COVID-19 pandemic increased HCWs' susceptibility to burnout, given that they had to work under highly unbearable conditions, where the job demands increased unexpectedly and rapidly. In this study, HCWs experienced various burnout symptoms, including emotional strain and detachment, uncertainty-induced fear and anxiety, physical exhaustion, low job accomplishment and dreading work while maintaining professional responsibility. The conditions created by COVID-19 pushed the government and HCWs alike to think outside the box and be creative in mitigating COVID-19-induced burnout. These creative ways included rotational time off work and psychological support.

Most importantly, although the COVID-19 conditions initially threatened HCWs' resilience, this subsequently improved HCWs and their adherence to IPC. The burnout phenomenon, which has evolved over the years in terms of what it entails and its evocative power to capture the realities of people's workplace experiences, has made it both important and controversial in the research field [3]. Outbreaks such as COVID-19 magnify the depth and magnitude of the phenomena, and therefore, more studies capturing the various experiences of HCWs and patient perspectives, using mixed methods, are essential. This study provides strategic information for policymakers and managers on developing and strengthening welfare policies to promote and protect frontline HCWs' well-being and work functioning.

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Data Availability Statement: The datasets analyzed during the current study are the property of the University of KwaZulu-Natal (UKZN) and cannot be publicly available. All interested readers can access the dataset from the UKZN Biomedical Research Ethics Committee (BREC) through the following contacts: The Chairperson Biomedical Research Ethics Administration Research Office, Westville Campus, Govan Mbeki Building University of KwaZulu-Natal P/Bag X54001, Durban, 4000 KwaZulu-Natal, South Africa Tel.: +27-31-260-4769 Fax: +27-31-260-4609 Email: BREC@ukzn.ac.za.

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Abbreviations

HCW	Healthcare worker
MRH	Mthatha Regional Hospital
SSA	Sub-Saharan Africa
COVID-19	Coronavirus Disease 2019
MBI	Maslach Burnout Inventory
PPE	Personal protective equipment
IPC	Infection prevention and control
MERS	Middle East Respiratory Syndrome
WHO	World Health Organization
TB	Tuberculosis
UKZN	University of KwaZulu-Natal
BREC	Biomedical Research Ethics Committee
CIDERU	Cancer & Infectious Diseases Epidemiology Research Unit (CIDERU)

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