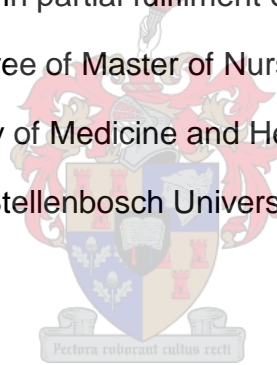


**THE EXPERIENCES OF CRITICAL CARE NURSES WORKING IN
THE PRIVATE SECTOR, IN THE WESTERN CAPE, DURING THE
COVID-19 PANDEMIC**

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Thesis presented in partial fulfilment of the requirements
for the degree of Master of Nursing Science
in the Faculty of Medicine and Health Sciences
Stellenbosch University



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March 2023

DECLARATION

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ABSTRACT

The World Health Organization (WHO) declared COVID-19 a pandemic on 11 March 2020 with significant subsequent global disruptions, especially in the healthcare sector. During the pandemic there was an influx of critically ill patients and an increased demand for critical care beds resulting in a severe shortage of beds and skilled critical care nurses (CCNs). Furthermore, working conditions (physical, psychological) may have an impact on both staff and patients.

The aim of this study was to explore the experiences of critical care nurses working at private hospitals in the Western Cape during the COVID-19 pandemic.

The study objectives were to:

- Explore the experiences of CCNs working during the COVID-19 pandemic.
- Describe critical care nurses' experience of how the COVID-19 pandemic influenced caring for critical ill patients.
- Describe the CCNs experiences of organisational management strategies during the COVID-19 pandemic.

Methods - A qualitative design with an exploratory descriptive approach was applied. The target population included registered nurses employed at two private hospitals in the Western Cape. A sample size of 10 was drawn from a total population of 58 at the two participating hospitals. Purposive sampling was used. Data was obtained through individual interviews, using a semi-structured interview guide. A pilot interview was conducted using a semi-structured interview guide, based on the objectives of the study. Findings from the pilot interview were included in the main study to avoid the loss of any information.

Data was analysed using Braun and Clarke's (2006) steps for thematic data analysis. Trustworthiness of the study was assured by adherence to Lincoln and Guba's criteria of credibility, confirmability, transferability and dependability. All ethical principles were met.

Results - Six main themes emerged from the data analysis, i.e., critical care environment, managing human resources, staff planning and management, staff wellbeing, quality of patient care and surviving COVID-19: unexpected outcomes. The findings of this study demonstrated that CCNs were dissatisfied with their work environment in terms of staff and equipment shortages. The rapid increase in numbers and rapid deterioration of critically ill patients and subsequent high mortality rates impacted on patients and staff. Critical care nurses could not provide holistic care due to staff shortages. Exposure to the stressors prevailing during the COVID-19 pandemic had an impact on CCNs' physical and psychological health. While management provided certain resources, personal protective equipment (PPE) and staff, shortages of PPE and unfair allocation of staff were reported. Although a general lack of support from management was experienced, support from unit managers (UMs) and shift leaders was valued. Despite the challenges that the CCNs faced during the COVID-19 pandemic, respondents reported personal and professional growth during that time.

Keywords: critical care nurses, experiences, perceptions, wellbeing, COVID-19 pandemic.

OPSOMMING

Die Wêreldgesondheidsorganisasie (WGO) het COVID-19 op 11 Maart 2020 tot 'n pandemie verklaar met gevolglike ontwrigtings, veral in die gesondheidsorgsektor. Tydens die pandemie was daar 'n toename in kritiek siek pasiënte en 'n toenemende vraag kritieke sorg beddens, wat gelei het tot 'n ernstige tekort aan beddens en bekwame kritieke sorg verpleegkundiges. Verder kan werksomstandighede (fisies, sielkundig) 'n impak op beide personeel en pasiënte hê.

Die doel van hierdie studie was om die ervarings van kritieke sorg verpleegkundiges wat tydens die COVID-19-pandemie by privaat hospitale in die Wes-Kaap gewerk het, te ondersoek.

Die doelwitte van die studie was om:

- Die ervarings van kritieke sorg verpleegkundiges, wat tydens die COVID-19 pandemie gewerk het, te verken.
- Kritieke sorg verpleegkundiges se ervarings van hoe die COVID-19-pandemie die versorging van kritieke siek pasiënte beïnvloed het, te beskryf.
- Beskryf die kritieke sorg verpleegkundiges se ervarings van organisatoriese bestuurstrategieë tydens die COVID-19-pandemie.

Metodes - 'n Kwalitatiewe ontwerp met 'n verkennende beskrywende benadering is toegepas. Die teikenbevolking sluit geregistreerde verpleegkundiges in wat by twee privaat hospitale in die Wes-Kaap werksaam is. 'n Steekproefgrootte van 10 is geneem uit 'n totale bevolking van 58 by twee deelnemende hospitale. Doelgerigte steekproefneming is gebruik. Data is verkry deur middel van individuele onderhoude, met behulp van 'n semi-gestruktureerde onderhoudsgids. 'n Loodsonderhoud is gevoer met behulp van 'n semi-gestruktureerde onderhoudsgids, gebaseer op die studiedoelwitte. Bevindinge van die loodsonderhoud is in die hoofstudie ingesluit om die verlies van enige inligting te vermy.

Data is ontleed met behulp van Braun en Clarke (2006) se stappe vir tematiese data-analise. Betroubaarheid van die studie is verseker deur die nakoming van Lincoln en

Guba se kriteria van geloofwaardigheid, bevestigbaarheid, oordraagbaarheid en betroubaarheid. Alle etiese beginsels is nagekom.

Bevindinge: Ses hoofemas het uit die data-analise na vore gekom, naamlik kritiekesorg omgewing, die bestuur van menslike hulpbronne, personeelbeplanning en -bestuur, personeelwelstand, kwaliteit van pasiëntsorg en die oorlewing van COVID-19: onverwagte uitkomst. Die bevindinge van hierdie studie het geïllustreer dat kritieke sorg verpleegkundiges ontevrede was met hul werksomgewing wat verband hou met personeel- en toerustingtekort. Die vinnige toename en agteruitgang van kritiek siek pasiënte en gevolglik hoë sterftes het 'n impak op pasiënte en personeel gehad. Verpleegkundiges in kritieke sorg kon nie holistiese sorg verskaf nie weens personeeltekort. Blootstelling aan die stressors tydens die COVID-19-pandemie het 'n impak op kritieke sorg verpleegkundiges se fisiese en sielkundige gesondheid gehad. Bestuur het hulpbronne verskaf, persoonlike beskermings toerusting (PBT) en personeel, maar tekorte aan PBT is aangemeld en onbillike toewysing van personeel. Alhoewel 'n gebrek aan ondersteuning van bestuur in die algemeen ervaar is, is ondersteuning van eenheidsbestuurders en skofleiers waardeer. Ondanks die uitdagings wat die kritieke sorg verpleegkundiges tydens die COVID-19-pandemie in die gesig gestaar het, is persoonlike en professionele groei ervaar.

Sleutelwoorde: kritieke sorg verpleegkundiges, ervarings, persepsies, welstand, COVID-19-pandemie.

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ABBREVIATIONS

AACN	American Association of Critical Care Nurses
ACCN	Australian College of Critical Care Nurses
ARDS	Adult Respiratory Distress Syndrome
BIPAP	Bi-level Positive Airway Pressure
CACCN	Canadian Association of Critical Care Nurses
CCN	Critical Care Nurse
CCU	Critical Care Unit
COVID-19	Coronavirus disease 2019
CVVHD	Continuous Venovenous Haemodialysis
HASA	Hospital Association of South Africa
ICN	International Council of Nurses
PPE	Personal Protective Equipment
PN	Professional Nurse
PTSD	Posttraumatic distress syndrome
RN	Registered Nurse
SANC	South African Nursing Council
UM	Unit Manager
WFCCN	World Federation of Critical Care Nurses
WHO	World Health Organization

CHAPTER 1

FOUNDATION OF THE STUDY

1.1 INTRODUCTION

The World Health Organization (WHO) declared Coronavirus disease 2019 (COVID-19) a pandemic on 11 March 2020 with subsequent significant global disruption (Livingston, Bucher & Rekito, 2020:1122). Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is a novel virus and was identified as the causative agent of the COVID-19 pandemic (Sohrabi, Alsafi, O'Neill, Khan, Kerwan, A-Jabi, Iosifidis & Agha, 2020:71). The virus is transmitted from person to person and unprotected exposure to an infected person may result in the spread of the virus with symptoms which include headache, fever, muscle ache and sore throat (Jebril, 2020:2785 & 2786).

SARS-CoV-2 was first detected in Wuhan, China from where it spread to other countries globally (Adil, Rahman, Whitelaw, Jain, Al-Taani, Munasinghe & Jambulingan, 2021b:110). The first case in South Africa was reported on 5 March 2020 (Broadbent, Combrink & Smart, 2020). The spread of COVID-19 was rapid and on 15 March 2020 the pandemic was declared a national disaster in South Africa. Globally, the healthcare sector was severely impacted – especially in the critical care environment.

Development of so-called severe Acute Respiratory Distress Syndrome (ARDS) as a result of infection with the SARS-CoV-2 virus, may necessitate that infected patients are admitted to critical care units (Adil *et al.*, 2021a). The pandemic resulted in an increase in critical care patient admissions and a higher demand for critical care beds with a resulting severe shortage of beds and skilled Critical Care Nurses (CCNs) (Arabi, Murthy & Webb, 2020:833-836; Cleary, Wilkinson, Tamandjou Tchuem, Docrat & Solanki, 2020:2-3). The COVID-19 pandemic exacerbated the existing severe shortage of critical care nurses in South Africa (Matlakala & Botha, 2016:52-53). As a result, the government issued a call to recruit retired nurses and nurses working in non-clinical areas (Christen, D'Aeth, Løchen, McCabe, Rizmie, Schmit, Nayagam, Miraldo *et al.*, 2021:1-3; Department of Health, 2020).

COVID-19 had a negative impact on the mental health of CCNs and signs of post-traumatic stress, anxiety and depression were observed (Caillet, Coste, Sanchez & Allacouchiche, 2020:717-719; Saracoglu, Simsek, Kahraman, Bombaci, Sezen, Saracoglu & Demirhan, 2020:717-722). The COVID-19 pandemic also exposed CCNs to unprecedented challenges in the work environment. Consequently, the researcher sought to explore the experiences of CCNs working in the private sector during the COVID-19 pandemic.

1.2 BACKGROUND AND RATIONALE

Health care in South Africa is divided into two systems: the public sector funded by the government and the private sector that serves patients with medical aids or who are self-funded. The researcher, a nurse manager employed at a private health care hospital, observed that CCNs were struggling to cope during the COVID-19 pandemic due to a shortage of staff. The suggested patient to nurse ratio for critically ill patients in critical care units, related to patient activity and acuity, is 1:1 (Marshall, Bosco, Adhikari, Connolly, Diaz, Dorman, Fowler, Meyfroidt *et al.*, 2017:273). This 1:1 ratio for critically ill patients (e.g., mechanically ventilated) was generally applied in the healthcare institutions prior to the COVID-19 pandemic. During the pandemic, however, nurses had to work with a ratio of 1:3, with one nurse caring for three critical care patients. Most of these patients were ventilated and unstable. Patients were treated in general wards due to shortages of beds and when it was possible to admit them to a Critical Care Unit (CCU), they often had to be resuscitated. This resulted in CCNs having to deal with increased patient mortality. The second surge of COVID-19 in the Western Cape occurred during December 2020 and January 2021, as evidenced by an increase in COVID-19 cases (1639–5439 per day) and an increased death rate per seven days (34–204) (Department of Health, Western Cape, 2020). Furthermore, CCNs did not have adequate leave during this period, and those who did take leave were called back early to relieve the workload and staff shortages. Many nurses were found to be physically and emotionally exhausted. The critical care environment is inherently stressful with CCNs periodically experiencing symptoms of burnout and post-traumatic stress syndrome (PTSD) but this intensified markedly during the COVID-19 pandemic (Azoulay, De Waele, Ferrer, Staudinger, Borkowska, Pova, Iliopoulou, Artigas *et al.*, 2020:1-7).

Most studies describing the experiences of frontline nurses during the COVID-19 pandemic have been conducted outside South Africa (Fernández-Castillo, Gonzalez-Caro, Fernández-Garcia, Parcel-Galvez & Garnacho-Montero, 2021:1-10; González-Gil, González-Blázquez, Parro-Moreno, Pedraz-Marcos, Palmar-Santos, Otero-García, Navarta-Sánchez, Alcolea-Cosín *et al.*, 2021:102966). Most of these studies focused on the emotional and physical challenges and the impact thereof (Digby, Winton-Brown, Finlayson, Dobson & Bucknall, 2020:4-7; Fernández-Castillo *et al.*, 2021:5-7). Some local research was conducted on the impact of the COVID-19 pandemic at a public sector hospital in the Western Cape (South Africa) (Parbhoo, Numanoglu, Argent, Franken, Mukosi & McCulloch, 2021:297). The researcher could, however, not find any research done to date in South Africa on the experiences of CCNs working in the private sector during the COVID-19 pandemic. This study will focus on two private hospitals in the northern suburbs of Cape Town and will contribute to the current body of knowledge and provide insight into the challenges of working as a CCN during the COVID-19-pandemic.

1.3 PROBLEM STATEMENT

Critical care nurses are regularly faced with distressing situations, and these include being faced with conflicting ethical decisions. During a pandemic, however, these challenges are exacerbated, and even routine nursing tasks become more difficult. Despite critical care nurses being accustomed to working under stressful circumstances and coping with patient deaths, the increased death toll during a pandemic may overwhelm CCNs' coping mechanisms. There is currently no research on how CCNs in the private sector in the Western Cape dealt with the COVID-19 pandemic. It is against this background that the researcher will endeavour to explore the experiences of CCNs at two private hospitals in the northern suburbs of Cape Town in the Western Cape in South Africa during the COVID-19 pandemic.

1.4 RESEARCH QUESTION

What are the experiences of critical care nurses working at private hospitals in the Western Cape during the COVID-19 pandemic?

1.5 RESEARCH AIM

The aim of this study was to explore the experiences of critical care nurses working at private hospitals in the Western Cape during the COVID-19 pandemic.

1.6 RESEARCH OBJECTIVES

The research objectives were to:

- Explore the experiences of CCNs working during the COVID-19 pandemic.
- Describe CCNs experience of how the COVID-19 pandemic influenced caring for critically ill patients.
- Describe the CCNs experiences of organisational management strategies during the COVID-19 pandemic.

1.7 RESEARCH METHODOLOGY

A brief description of the research methodology is provided in the next section, while a more detailed description will be given in Chapter 3.

1.7.1 Research design

A qualitative design with an exploratory descriptive approach was used to explore the experiences of critical care nurses working during the COVID-19 pandemic in the private sector in the Western Cape (Grove & Gray, 2019:60). Braun and Clarke's (2006) steps for thematic analysis of data were applied to analytically examine narrative data from life stories (Maguire & Delahunt, 2017:3352).

1.7.2 Study setting

The study was conducted at two private hospitals in the northern suburbs of Cape Town in the Western Cape province of South Africa.

1.7.3 Population and sampling

Participants were purposively selected to provide rich information. All registered nurses with critical care training were selected at each of the participating hospitals. Interviews were conducted with 10 participants.

1.7.4 Data collection tool

Data collection occurred through individual interviews using a semi-structured interview guide.

1.7.5 Pilot interview

A pilot interview was conducted with one participant who met the inclusion criteria. Data obtained during the pilot interview was included in the main study findings to avoid the loss of any information which may be relevant to the research question.

1.7.6 Data collection

The researcher conducted interviews in hospital B and a fieldworker conducted the interviews in hospital A. Data collection took place from August to October 2022.

1.7.7 Data analysis

All data was then examined and analysed analytically using Braun and Clarke's (2006) steps for thematic data analysis.

1.8 TRUSTWORTHINESS

To ensure trustworthiness, the researcher applied the principles of credibility, dependability, confirmability and transferability as prescribed by Lincoln and Guba (1985, cited in Connelly, 2016:435). An in-depth discussion of these principles will be included in Chapter 3.

1.9 ETHICAL CONSIDERATIONS

The proposal was reviewed and approved by the Health Research Ethics Committee (HREC Reference Number: at SS22/02/04_COVID-19) Stellenbosch University (Appendix 1) and approval to conduct the study was received during May 2022. Institutional permission was obtained during July 2022. Throughout the study the researcher observed accepted ethical principles including respect for persons, privacy, confidentiality, beneficence and justice. These principles will be elaborated upon in Chapter 3.

1.10 DEFINITIONS

Critical care nurse: A registered nurse providing care to critically ill patients in units with highly technical equipment as described in the South African Nursing Council Competencies for critical care nursing as per the Nursing Act (Act No.33 of 2005). In this study, the term critical care nurse refers to the person providing direct nursing care to the COVID-19 patient in the critical care unit.

Critical care nursing: A specific speciality providing human resources to address actual and potential life-threatening problems. Caring for a critical care patient requires specialised knowledge, skills and abilities (Urden, Stacy & Lough, 2018:2). In this study, the term critical care nursing refers to nursing care provided to the COVID-patient in the critical care unit.

Critical care patient: A patient requiring individualised care, close observation or single organ support, or patients requiring respiratory support and support for two or more organs. In this study, the critical care patient refers to a person diagnosed with COVID-19 and nursed in the critical care unit (Urden *et al.*, 2018:2).

Critical care unit: An organised system in which comprehensive, intensive and specialised medical nursing care using specialised equipment is provided to patients at risk of developing acute life-threatening organ dysfunction (Marshall *et al.*, 2017:274). The critical care unit refers specifically to the units in which the study was conducted.

Organisation: Assignment of a group to a person of authority and requires coordination in order to reach a specific goal (Muller & Bester, 2016:195). In this study, organisation refers to the private health care facility in which the study was conducted.

Registered nurse: A person who possesses the compulsory competencies to assume responsibility and accountability to deliver comprehensive nursing care. This person is also registered as a professional nurse in terms of section 31 (1) (a) of the Nursing Act (Act No.33 of 2005). In this study, a registered nurse refers to the nurse caring for a COVID-19 patient in the critical care unit.

1.11 DURATION OF THE STUDY

Ethical approval from HREC at Stellenbosch University was received in May 2022. Permission from the institution's ethics committee to conduct the research study in two private hospitals was granted in July 2022 in which month the researcher also obtained permission from the management of the two private hospitals involved in the study. Data collection occurred over a period of six weeks during August and October 2022. Data analysis occurred simultaneously with data collection and was completed October 2022. The final thesis was submitted for examination on 1 December 2022.

1.12 CHAPTER OUTLINE

Chapter 1: Foundation of the study

This chapter provided the introduction to and rationale for the study and includes the problem statement, research question, objectives, methodology, definition of terms and the significance of the study.

Chapter 2: Literature review

Chapter 2 provides theoretical knowledge as derived from reviewed literature on the experiences of critical care nurses working during the COVID-19 pandemic.

Chapter 3: Research methodology

Chapter 3 provides a detailed description of the research methodology which was applied in this study.

Chapter 4: Results

Chapter 4 presents the results of this study.

Chapter 5: Discussion, conclusions and recommendations

In Chapter 5 the results of the study are discussed, conclusions are drawn, and recommendations are made.

1.13 SIGNIFICANCE OF THE STUDY

This study will contribute to the body of knowledge in the field of nursing as it explores the experiences of critical care nurses working during the COVID-19 pandemic. The data obtained from this study may provide a better understanding of challenges

experienced by critical care nurses in the Western Cape during a pandemic and the coping strategies applied.

1.14 SUMMARY

This chapter provided the introduction to and rationale for the study. It included the problem statement, the research question, and the aims and objectives guiding the study. An overview of the research methodology applied in this study is provided in Chapter 1. Finally, this chapter also provides a short description of the applied trustworthiness and considered ethical principles applied in this study. Chapter 2 will provide findings from the literature reviewed.

1.15 CONCLUSION

The COVID-19 pandemic had a significant global impact, and this was especially severe in the critical care environment. It was therefore imperative to explore the experiences of the critical care nurse working during the COVID-19 pandemic, including the management of critically ill patients, increased patient mortality, staff shortages and the discomfort experienced due to the wearing of PPE.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

Chapter 1 provided the introduction, background and rationale for the study. This chapter comprises the findings of literature reviewed and on the experiences of critical care nurses (CCNs) working during the COVID-19 pandemic. According to Grove and Gray (2019:151), the function of a literature review is to provide the theoretical and scientific context of a specific problem. The literature review assisted the researcher in identifying gaps in the current knowledge on the specific problem under investigation in this study. The literature review also provided the conceptual framework which guided the study. Findings from the reviewed literature also guided the researcher in the selection of an appropriate research methodology for the study.

2.2 ELECTING AND REVIEWING THE LITERATURE

The literature review took place over a period of 19 months. Searches were conducted using the following electronic databases: Google Scholar, Cumulative Index of Nursing and Health Literature (CINAHL), Public-Medline (PubMed), Web of Science and Wiley online library. Key words used were critical care nurses, experiences, perceptions, critical care patient, nursing care, wellbeing, post-traumatic stress, management, and COVID-19 pandemic. Approximately 100 articles were reviewed. The material selected was published between 2016 and 2022. The researcher also consulted textbooks to support literature and add meaning to concepts and definitions.

2.3 FINDINGS OF THE LITERATURE REVIEW

The devastating nature of pandemics, such as the COVID-19 pandemic, had a huge impact on the preparedness of healthcare institutions and coping strategies of healthcare workers. Pandemics also increase the demand for limited resources e.g., critical care beds and human resources (Fattahi, Keyvanshokoo, Kannan & Govindan, 2023:192-193). Critical care nurses play a critical role as primary frontline healthcare workers during the COVID-19 pandemic as they provide direct patient care (Hu, Kong & Li *et al.*, 2020; Liu, Shen, Chen & Liu, 2020; Zhang, Wang & Pan

et al., 2020). The impact of the COVID-19 pandemic on the patient, critical care nurse and organisational management are described under the following headings:

- Physical condition and care of patients suffering with COVID19
- The critical care nurse caring for the COVID-19 patient
- Organisation's management of the COVID-19 pandemic
- Conceptual framework.

2.4 PHYSICAL CONDITION AND CARE OF PATIENTS SUFFERING WITH COVID-19

2.4.1. Characteristics and clinical features of the critically ill COVID-19 patient

Several primary studies conducted abroad reveal that patients admitted to the CCU were mostly male with an average age of between 60 and 64 years (Aleva, Van Mourik, Broeders, Paling & De Jager, 2020:111-114; Halaçlı, Kaya & Topeli, 2020:585). Common comorbidities identified in COVID-19 patients who were admitted to critical care units were hypertension, type 2 diabetes, cardiovascular disease and obesity (Yu, Xu, Fu, Zhang, Yang, Xu, Xu, Wu *et al.*, 2020:619). Studies conducted in Africa showed similar comorbidities and included HIV (Biccard, Gopalan, Miller, Michell, Thomson, Ademuyiwa, Aniteye, Calligaro *et al.*, 2021:1891; Zamparini, Venturas, Shaddock, Edgar, Naidoo, Mahomed, Mer, Bolon *et al.*, 2020:106).

COVID-19 patients generally present with symptoms of fever, sweating, fatigue, malaise, coughing, sore throat and dyspnea (Wang, Hu, Hu, Zhu, Liu, Zhang, Wang, *et al.*, 2020:112, Zamparini *et al.*, 2020:108). COVID-19 patients also presented with other symptoms including headaches, diarrhea, myalgia, vomiting and anorexia (Saha, Ashan, Quader, Shoghan, Naher, Dutta, Akash, Mehedi *et al.*, 2021:1838; Zamparini *et al.*, 2020:106). Globally, symptoms are classified according to specific clinical criteria – mild, moderate, severe and critical (Saha *et al.*, 2021:34). Severe symptoms are indicated by respiratory rates of more than 30 breaths/minute and oxygen saturation of less than 90–93%. Critical symptoms are characterised by signs of organ failure (systolic blood pressure < 90 mmHg) (Halaçlı *et al.*, 2020:586; Sabaz, Özdemir, Özakin, Türkmen & Dinç, 2021:259). Coronavirus 2 causes severe acute

respiratory distress syndrome (ARDS) necessitating admission of patients to the CCU (Adil *et al.*, 2021).

2.4.2 Management and care of the critically ill COVID-19 patient

Patients with ARDS may require non-invasive or invasive mechanical ventilation (Sommer, Lukovic, Fagley, Long, Sobol, Heller, Moitra, Tunget *et al.*, 2020:3; Wang, Lu, Li, Chen, Chen, Su, Huang, Zhou *et al.*, 2020:1430). Provision of supplemental oxygen (by means of oxygen mask, nasal cannula and high-flow oxygenation) is the initial treatment in moderate cases of respiratory failure (Grasselli, Zangrillo, Zanella, Antonelli, Cabrini, Castelli, Cereda, Coluccello *et al.*, 2020:1577; Saha *et al.*, 2021:38). Research has shown that the majority of critically ill COVID-19 patients required invasive mechanical ventilation (Aleva *et al.*, 2020:113; Richards-Belle, Orzechowska, Gould, Thomas, Doidge, Mouncey, Christian, Shankar-Hari *et al.*, 2020:587; Yu *et al.*, 2020:4). The patients were hemodynamically unstable, necessitating invasive monitoring and treatment with vasopressors and pulmonary vasodilators. They therefore had to be cared for by trained and experienced CCNs (Sommer *et al.*, 2020:2).

Patients were cared for in isolation rooms with CCNs required to take precautions including the wearing of PPE (masks, visors, scrubs, aprons and gloves) and practicing hand hygiene to prevent the virus from spreading and to protect other healthcare workers (Shang, Pan, Yang, Zhong, Shang, Wu, Yu, Zhang *et al.*, 2020:3-4). Critical care patients experienced a sense of isolation and found proper communication with the CCN difficult as visors and masks prevented the patient from understanding what the CCN was communicating (Bambi, Lozzo, Rosero & Lucchini, 2020:239; Catania, Zanini, Hayter, Timmins, Dasso, Ottonello, Aleo, Sasso *et al.*, 2020:3-8). The strict isolation precautions and the critical and unstable condition of the COVID-19 patients resulted in various challenges for the critical care nurses managing the needs of the patient (Halaçlı *et al.*, 2020:1-15; Kisorio & Langley, 2019:392-398; Zamparini *et al.*, 2020:105-11). As a result of these challenges – infection control practices and the wearing of protective clothing – and limited response time, CCNs were unable to provide COVID-19 patients with the high level of care usually provided to patients.

2.5 THE CRITICAL CARE NURSE CARING FOR THE COVID-19 PATIENT

Critical care nurses experienced major changes in the work environment during the pandemic, e.g., imbalanced workloads, shortage of human resources and the continuous wearing of PPE. All these factors could potentially have a negative psychological impact on the critical care nurse (Caillet *et al.*, 2020:719).

2.5.1 Work conditions in critical care units during the COVID-19 pandemic

Changes in the work environment during the COVID-19 pandemic had an unquestionable impact on nurses and the nursing profession. However, despite the challenges and changed environment, the pandemic also motivated nurses to be innovative and to collaboratively find solutions to care for the patients thus contributing to professional growth (Fauteux, 2021:19). The extensive media coverage increased interest in nursing and highlighted the value of the nursing profession (Fauteux, 2021:19; Vindrola-Padros, Andrews, Dowrick, Djellouli, Fillmore, Bautista Gonzalez, Javadi, Lewis-Jackson *et al.*, 2020:6). Nurses caring for critically ill COVID-19 patients found themselves thrust into high-risk situations with the danger of potential exposure to the virus. Globally, exposure to COVID-19 resulted in the deaths of many nurses as described in studies conducted early in the pandemic (Bandyopadhyay, Baticulon, Kadhum, Alser, Ojuka, Badereddin, Kamath, Parepalli *et al.*, 2020:1; Fauteux, 2021:19).

Critical care nurses reported that during the course of the pandemic they experienced a sense of being 'out-of-control' owing to the increase of critical care patient admissions and the shortage of trained staff (Bergman, Falk, Wolf & Larrsson, 2021:470). Staff shortages experienced during the pandemic were either due to illness or increased workloads (Fernández-Castillo *et al.*, 2021:5). To meet the shortfalls, CCNs were required to work longer hours and additional shifts and this resulted in sleep deprivation for many nurses and an inability to disconnect from work (González-Gil *et al.*, 2021:5). This situation may negatively affect patient care – for example, mouth and pressure care – as a result of CCNs' exhaustion compromising their ability to attend to the basic physical and emotional needs of patients (Bambi *et al.*, 2020:239, Fernández-Castillo *et al.*, 2021:6-7).

Evidence suggests that coronavirus spreads primarily between people who are in close proximity, typically within one metre (short-range) (Pridham & George, 1986; WHO, 2021:2). When aerosols or droplets containing the virus are inhaled or come into direct contact with the eyes, nose or mouth, a person can become infected. In a CCU the intubation of COVID-19 patients poses a risk of viral transmission to healthcare staff necessitating the wearing of PPE by all staff. The discomfort of wearing PPE for extended periods, sometimes 4–6 hours continuously, manifests as headaches, skin reactions and excessive sweating (Dhandapani, Jose & Cyriac, 2021:135-136; Ong, Bharatendu, Goh, Tang, Sooi, Tan, Tan, Teoh *et al.*, 2020:868-871). Personal protective equipment restricts mobility and staff cannot eat or drink while wearing PPE and this results in thirst and hunger. Many photographs released in the media have shown facial scars on medical personnel as a result of wearing masks for extended periods of time (Galehdar, Toulabi, Kamran & Heydari, 2020:6). Because of the risk of infection and the demanding workload, CCNs are subject to negative emotions such as fear, anxiety and uncertainty (Catania *et al.*, 2020:5-6).

2.5.2 Psychological experiences of critical care nurses during the COVID-19 pandemic

Critical care nurses reported feelings of fear of contracting the disease and helplessness due to being unable to provide proper care for their patients (González-Gil *et al.*, 2021:4; Gordon, Magbee & Yoder 2021:3). A study assessing predictors of stress, anxiety and depression in CCNs identified resource constraints, an increased workload, and a lack of training (Baraka, Ramadan & Hassan 2021:6). The same study showed that predictors for depression included a known history of physiological problems and colleagues infected with COVID-19 (Baraka *et al.*, 2021:6).

Depression and anxiety are associated with insomnia and the prevalence was found to be higher among CCNs working with COVID-19 patients (Saracoglu *et al.*, 2020:609-613). Insomnia among CCNs can also be attributed to other factors including that of a high risk environment – particularly fear related to the risk of contracting the virus (Jose, Cyriac, Dhandapani, Mehra & Sharma, 2022:176). It was also described that the severity of impaired sleep quality increases with age (Kandemir, Temiz, Ozhanli, Erdogan & Kanbay, 2022:608). The challenges and stressors experienced during the COVID-19 pandemic can potentially result in CCNs

being emotionally drained and exhibiting signs of burnout and post-traumatic stress (Caillet *et al.*, 2020:718-721). Higher levels of burnout, characterised by emotional exhaustion and depolarisation, were described in CCNs and this led to nurses leaving the profession (Chen, Sun, Chen, Jen, Kang, Kao & Chou, 2020:111; Fauteux, 2021:6).

CCNs were also faced with social challenges outside of work, including the necessity of home schooling their children, stigmatisation due to the possibility of their carrying the virus, and the cumulative effects of lockdown e.g. no social gatherings (Gordon *et al.*, 2021:4). This contributed to CCNs experiencing a sense of isolation. Although most studies have documented the negative psychological effects of the pandemic (e.g. post-traumatic stress) experienced by the CCNs, a few studies have demonstrated certain positive effects of the COVID-19 pandemic such as professional growth (Bergman *et al.*, 2021:472; Foli, Forster, Cheng, Zhang & Chiu, 2021:3863; Muz & Erdoğan Yüce, 2021:14).

2.5.3 Health and wellbeing of the critical care nurse during the COVID-19 pandemic

Critical care nurses transitioned from an initial sense of chaos and uncertainty at the onset of the pandemic to a new perspective on nursing which emerged during the pandemic (Bergman *et al.*, 2021:472). Critical care nurses experienced an enhanced sense of gratitude towards colleagues who assisted them and a sense of accomplishment when a patient's condition improved (Bergman *et al.*, 2021:472).

The challenge of critical care nurses having to face their own fears while simultaneously providing care to COVID-19 patients led to the recognition of the importance of measures to protect CCNs' wellbeing (Ripp, Peccoraro & Charney, 2020:1). A task force in the New York health system developed a wellbeing response which focused on providing basic needs e.g., food, measures for their personal safety, and the provision of housing for staff in isolation. Communication was enhanced by sending appreciation and gratitude messages as well as optimising the spread of information regarding changes in protocols. Furthermore, hotlines and psychological support was available to support nurses during the pandemic (Ripp *et al.*, 2020:1-3).

Critical care nurses working during the COVID-19 pandemic also experienced professional growth, especially in terms of learning from colleagues (Muz & Erdoğan Yüce, 2021:1033). The value of teamwork was emphasised and this contributed to the building of resilience (Fernández-Castillo *et al.*, 2021:8). Critical care nurses became more resilient by adopting various coping strategies such as receiving support from family, friends and colleagues, taking walks, and practicing religion. (Gordon *et al.*, 2021:5). The health organisations' preparedness and management of the COVID-19 pandemic played a role in how CCNs in their employ adapted to the changed environment.

2.6 ORGANISATION'S MANAGEMENT OF THE COVID-19 PANDEMIC

2.6.1 Planning and preparedness for the COVID-19 pandemic

Each health organisation and its leadership (Poortaghi, Sharhmari & Ghobaidi, 2021:2-3) is responsible for providing a therapeutic environment with sufficient PPE and adequate human resources and equipment to ensure safe and quality patient care (Arabi, Azoulay, Al-Dorzi, Phua, Salluh, Binnie, Hodgson, Angus *et al.*, 2021). Planning, networking and teamwork featured as important aspects to be considered when preparing for a disaster (Michell, Joubert, Peters, Fredericks, Miller, Piercy, Arnold-Day, Thomson *et al.*, 2021:64). Organisations were required to make several changes in response to the pandemic, including increasing the number of critical care beds and by utilising space in operating rooms (Griffin, Karas, Ivascu & Lief, 2020:1341). The staff shortages were addressed by deploying staff from other departments in the hospital to assist in CCUs (Mhawish & Rasheed, 2021:3). Consequently, CCUs had to adapt the traditional nurse-patient-ratio of 1:1 or 1:2 to a team approach with a nurse-patient ratio of 1:3 or 1:4, allowing re-deployed staff to provide direct nursing care under the supervision of experienced CCNs (Mhawish & Rasheed, 2021:3-4; Michell *et al.*, 2021:64).

Providing sufficient PPE is costly and many countries were faced with severe shortages due to increased global demand (Iheduru-Anderson, 2021:1-15). The healthcare sector in South Africa faced similar challenges of limited supplies, reduced flight availability to transport PPE, and corruption (Moonasar, Pillay, Leonard, Naidoo, Mngemane, Ramkrishna, Jamaloodien, Lebesse *et al.*, 2021:4). Strategies were

implemented to optimise the use of PPE during the pandemic. This included the bundling of activities requiring PPE to reduce unnecessary usage (World Health Organization, 2020:2-4).

The WHO (2021:1-13) instituted guidelines during the pandemic to guide the health sector on the prevention of the spread of COVID-19 and to ensure the safety of healthcare workers, e.g., prevention, identification and management of healthcare workers in the context of their risk profile for COVID-19. Local institutions adjusted their protocols to comply with WHO requirements and South African COVID-19 regulations (Dramowski, Zunza, Dube, Parker & Slogrove, 2020:1). According to frontline nurses, institutional changes to COVID-19 guidelines or protocol changes in response to WHO regulations can create confusion, e.g. changes to the requirements for PPE (Vindrola-Padros *et al.*, 2020:4). Studies have shown that thorough and frequent communication regarding changes in infection control protocols is essential (Griffin *et al.*, 2020:1338; Parker, Karamchand, Schrueder, Lahri, Rabie, Aucamp, Abrahams, Ciapparelli *et al.*, 2020:6-7).

2.6.2 Staff support during the COVID-19 pandemic

Clear communication, good leadership and support are essential for the wellbeing of nurses (Digby *et al.*, 2020:7). Experience from hospitals in the Western Cape has shown the importance of sharing information regarding PPE, protocols and the experiences of staff on the floor (Michell *et al.*, 2021:68; Parbhoo *et al.*, 2021:296). During the pandemic new ways of communicating information were adopted. These included the use of Zoom and Microsoft (MS) Teams platforms to ensure that important messages reached staff timeously (Adelaja, Sayma, Walton McLachlan, de Boisanger, Bartlett-Pestell, Roche, Gandhi *et al.*, 2020:165).

Psychological assistance was provided in the form of support groups which facilitated debriefing and continuous updating regarding ongoing changes (Digby *et al.*, 2020:5-6). A tertiary hospital in the Western Cape provided buddy support groups, telephonic support to COVID-19 positive staff, and encouraged staff participation in the Jerusalem dance, all of which played a role in uplifting the morale of hospital staff (Parbhoo *et al.*, 2021:297). Healthcare facilities arranged for ongoing training regarding wearing of PPE, infection control strategies and the management of COVID-

19 patients (Endacott, Pearce, Rae, Richardson, Bench, Pattison, Boulanger, Mouncey *et al.*, 2021:1083).

Workplaces were advised to conduct the necessary risk assessments to identify employees at risk of severe COVID-19 disease or the risk of transmission through their work (Dhai, 2021:42). High-risk staff were assigned to work in non-COVID areas (Parbhoo *et al.*, 2021). Mandatory COVID-19 vaccination in the workplace, specifically healthcare institutions, is still under debate in many countries (Khunti, Kamal, Pareek & Griffiths, 2021). While COVID-19 vaccination is currently not mandatory in South Africa, some organisations have implemented mandatory COVID-19 vaccination policies, e.g. Mediclinic (Africa, 2021). The organisation therefore has the responsibility to encourage healthcare workers to be vaccinated to ensure protection against contracting the virus.

2.7 CONCEPTUAL FRAMEWORK

A theory is defined as an interrelated set of concepts and statements describing a specific view (Grove & Gray, 2019:173). A framework is described as a structure assisting the researcher to examine a specific problem (Grove & Gray, 2019:179). A conceptual framework refers to a structure in which concepts interlink and relationships can be explained (Grove & Gray, 2019:179). The conceptual framework in this study is based on the literature reviewed. Figure 2.1 depicts the interrelated factors between the CCN, the patient and the organisation. A discussion on the various elements of the framework will follow and these are illustrated in Figure 2.1.

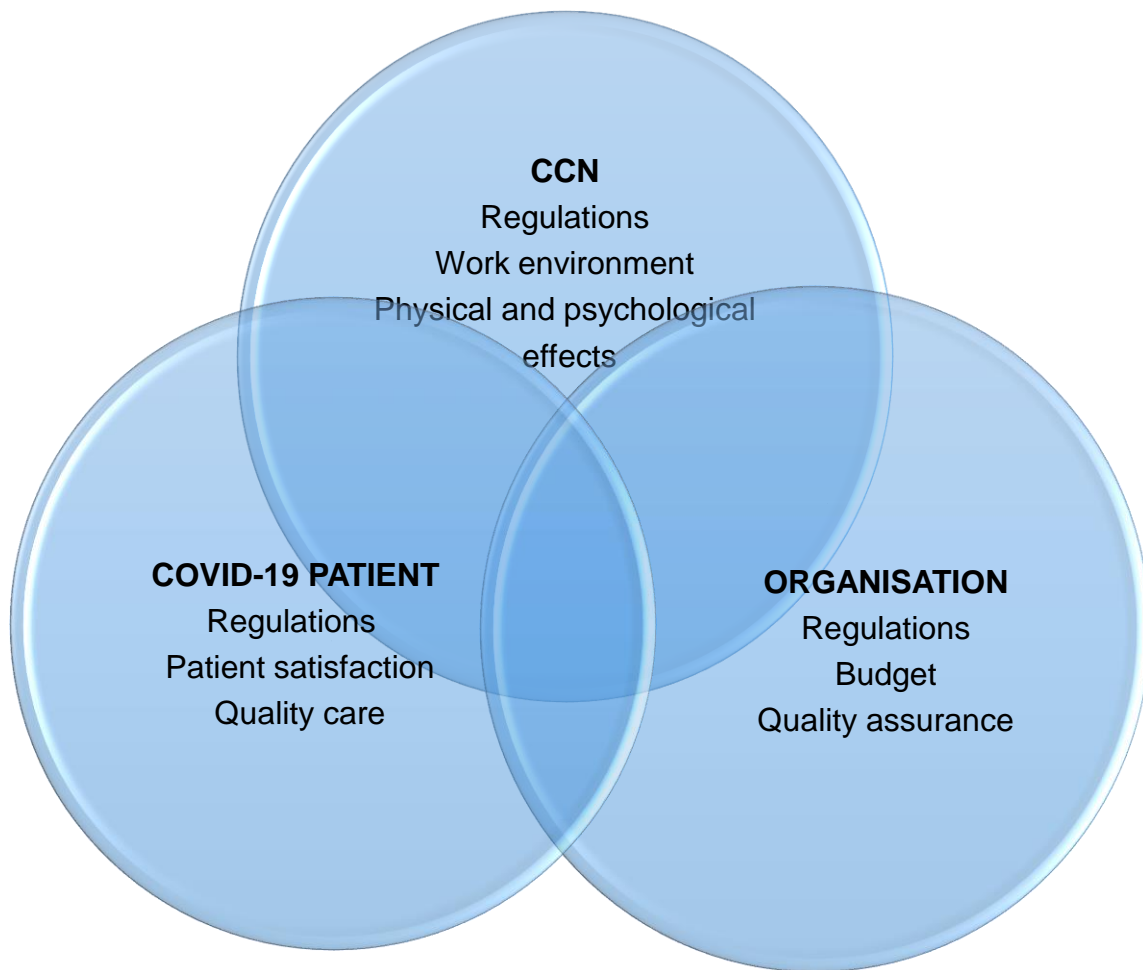


Figure 2.1: Framework of those affected by the COVID-19 pandemic at the workplace

2.7.1 COVID-19 patient

2.7.1.1 Regulations governing patient rights

According to the Patient Rights Charter as published in the Constitution of South Africa Act 108 of 1996 (South African Government, 1996), everyone has a right to continuous healthcare. The South African Nursing Council Competencies for critical care nurses, according to Nursing Act (Act No.33 of 2005), suggest that patient care in a CCU should be provided by a person trained in comprehensive critical care. To contain and manage the spread of the coronavirus during the pandemic, patients admitted to healthcare facilities had to adhere to COVID-19 regulations and guidelines as governed by the Disaster Management Act (Act No. 57 of 2002, Section 27 (2)). These measures included mandatory COVID-19 testing prior to admission and adherence to infection control precautions.

The aim of the South African Government's Batho Pele Principles is to improve quality and accessibility of services to the public (Batho Pele Principles, 1997). The Batho Pele principle of "putting other people first" was applied by health care workers during the COVID-19 pandemic, ensuring that they took care of the sick, despite fears for their own safety.

2.7.1.2 Patient satisfaction

Patient satisfaction is an indicator of the quality of healthcare. Patients' levels of satisfaction depend on their various individual perceptions and experiences e.g. continuous presence of skilled staff to give immediate attention (Kisorio & Langley, 2019:393-395; Kol, Arıkan, İlaslan, Akıncı, Koçak *et al.*, 2018:53). Improvement in a patient's condition culminates in discharge from hospital and this improves both patient and staff satisfaction (Wynne, Davidson, Duffield, Jackson & Ferguson, 2021:5-6). In contrast, a shortage of skilled staff may result in the patients' needs not being met – with resulting dissatisfaction. Patient satisfaction in the CCU units is related to receiving continuous communication regarding their condition (Kisorio & Langley, 2019:393-395). Proper communication allows patients to feel valued and cared for (Karaca & Durna, 2019:241).

2.7.1.3 Quality care

The WHO emphasises that quality care should focus on providing safe, evidenced-based healthcare according to the needs of each individual. The main goal of providing quality care to the critical care patient is to maintain safety and this requires optimal staffing in a safe environment (Oesterreich, Cywinski, Elo, Geube & Mathur, 2020:1). The outcome of quality care is measured by the number of adverse events and in-hospital infection rates (Oesterreich *et al.*, 2020:1). A patient to nurse ratio of 1:1, especially in critical care, allows the CCN to render quality care such as implementing strategies to prevent ventilation-associated infections (Falk & Wallin, 2016:78-79).

2.7.2 Critical care nurse

2.7.2.1 Training of critical care nurses

Critically ill patients are those with life-threatening conditions or injuries that require specialised care provided by healthcare providers (Naidoo & Naidoo, 2021:2). Internationally, it is required that CCNs possess advanced speciality qualifications to care for critically ill patients (Chamberlain, Pollock & Fulbrook, 2018:296; Joynt, Gopalan, Argent, Chetty, Wise, Lai, Hodgson, Lee *et al.*, 2019:36; Marshall *et al.*, 2017:273-275). In a review of CCN staffing, education and practice, the authors recommend that RNs obtain a bachelor's degree from a university or a hospital-based college diploma (Gill, Leslie, Grech & Latour, 2012:231). According to the World Federation of CCN's (WFCCN) position statement on CCN workforces, Registered Nurses (RNs) who provide direct care to critical care patients should have a post-registration qualification or certification in critical care nursing (Bloomer, Fulbrook, Goldsworthy, Livesay, Mitchell, Williams & Friganovic, 2019:235). Globally, associations such as the American Association of CCNs (AACN), the Canadian Association of CCNs (CACCN) and the Australian College of CCNs (ACCN) have instituted standard competencies which should be included in critical care curricula, e.g. specialist knowledge, skills, assessment and management of care (Gill *et al.*, 2012:234).

On 25 May 2021, the South African Nursing Council issued a position statement on the allocation of non-specialised nurses in specialised units. The statement emphasised the importance of the necessary skills for nurses caring for patients in specialised units (Nursing Act, Act no.33 of 2005). This statement indicated that the primary care giver in a specialised unit should be a Professional Nurse (PN) with an additional qualification and registered as a nursing specialist. The primary care giver can also be an experienced PN with at least 80 hours of induction in the specialised unit. It is therefore required that RNs in South Africa should obtain an additional qualification in critical care.

2.7.2.2 Regulations

Critical care nurses in countries abroad are guided and represented by several associations or federations to ensure that high standards of nursing practice are

maintained e.g., International Council of Nurses (ICN). The ICN is a global federation for the advancement of the nursing profession and for promotion of the wellbeing of nurses. The WFCCN, registered under Australia's Corporations Act, 2001, represents CCNs and the aim is to improve critical care nursing globally by setting standards and promoting continuous education.

The South African Nursing Council (SANC) is the governing body for all South African nurses and is responsible for setting and maintaining standards of nursing education and practice as per the Nursing Act, 2005 (Act No. 33 of 2005). A CCN is registered as a nurse in terms of the Nursing Act 33 of 2005, under the scope of practice R2598 (Nursing Act 33, 2005). The Registered Nurse (RN) is therefore responsible for assessing, diagnosing health needs, and compiling a care plan to address the identified needs of a patient (Nursing Act 33:2005). South African nurses practice under R767 regulations which outline the acts and omissions in respect of which the SANC may take disciplinary action (Nursing Act 33, 2005), such as failing to maintain the healthcare user's health status. The recommended nurse-patient ratio in CCUs worldwide is 1:1 for the critically ill patient and 1:2 for the high care patient. Ensuring nurse-patient ratios of 1:1 in the CCUs during the COVID-19 pandemic were challenging due to the prevailing severe staff shortages (González-Gil *et al.*, 2021:4).

The South African Nursing Council's (SANC) Code of Ethics, under provision of the Nursing Act (Act no.33 of 2005), provides a framework for CCNs to apply ethical values and principles. The code of ethics ensures that CCNs fulfil their responsibility by caring for every individual in need of medical care. Furthermore, the code of ethics serves as a foundation for ethical decision making by incorporating ethical principles such as justice and non-maleficence. During the COVID-19 pandemic, the ethical principles of CCNs were challenged as the nurses were hard-pressed to provide the best possible care due to equipment and staff shortages (Fernández-Castillo *et al.*, 2021:5). Failure to apply ethical principles may result in harm or even death of a patient. As a result, a CCN who fails to practice their profession within the prescribed ethical boundaries may be found negligent, resulting in disciplinary action (SANC Code of Ethics, 2021:8).

2.7.2.3 Work environment

A critical care unit is a work environment in which critical care patients are cared for by specialised healthcare providers with the use of specialised equipment and treatment methods. According to Marshall *et al.* (2017:272-274), the CCU should be large enough to accommodate a certain number of patients, have the necessary emergency equipment, and be equipped with the requisite non-invasive and invasive monitoring devices to provide organ support and continuous monitoring. During the COVID-19 pandemic, physical spaces had to be transformed or redesigned to expand critical care unit space e.g. general wards were converted to CCUs (Adelaja *et al.*, 2020:166; Arabi *et al.*, 2021:834). Groote Schuur Hospital had to adapt various areas to accommodate the influx of COVID-19 critical care patients. This involved dividing CCUs into COVID-19 and non-COVID-19 CCU areas and identifying 60 additional spaces for critical care patients. Furthermore, due to the shortage of isolation areas, bed areas had to be demarcated with tape on the floors to create 'virtual isolation cubicles' where staff had to practice hand hygiene and don PPE prior to entering the area (Michell *et al.*, 2021:64-66).

The South African Nursing Council's (SANC) Nurses Rights (SANC, 2022:2) states that nurses have the right to a safe working environment while performing their duties of providing safe and quality care. Steps to ensure a healthy environment in the CCU include effective communication amongst multi-disciplinary team members, participation in the development of policies, appropriate staffing according to patient acuity and, importantly, recognition of the valuable role of the CCN (Karanikola & Mpouzika, 2018:45). A safe and healthy critical care environment contributes to the wellbeing of staff, thus contributing to quality care of patients (Karanikola & Mpouzika, 2018:45). Studies conducted during the COVID-19 pandemic found that CCNs did not perceive the CCU to be a healthy environment citing a shortage of skilled staff and insufficient communication as problematic (Eftekhari Ardebili, Naserbakht, Bernstein, Alazmani-Noodeh, Hakimi & Ranjbar, 2021:549; Fernández-Castillo *et al.*, 2021:3-7; Gordon *et al.*, 2021:3-4).

South Africa's labour laws guide employers on the basic rights of employees. The Basic Conditions of Employment Act (Act No. 75 of 1997) outlines fair labour practices under Section 23 (1) of the Constitution of South Africa (Act No. 108 of 1996), amongst

which is that staff should not work more than 10 hours overtime per week. During the COVID-19 pandemic, severe staff shortages resulted in many members of staff working more than the weekly maximum of 10 hours of overtime. This contravenes the recommendation of the Basic Conditions of Employment Act (Act No. 75 of 1997). Furthermore, the Employment Equity Act (Act No. 66 of 1995) states that employers should not discriminate unfairly against employees. During the COVID-19 pandemic, however, staff with certain co-morbidities, such as those who were immunocompromised, were not permitted to care directly for COVID-19 patients.

The Occupational Health and Safety Act (Act No. 85, 1993:15) requires employers to ensure that the working environment is safe and free from physical hazards or emotional situations that could potentially harm the psychological wellbeing of employees. This can be achieved by having sufficient trained staff, permitting vacations when necessary and supplying the necessary PPE and equipment. Management support is also identified as an essential factor in ensuring a safe environment (Morton, Bowers, Wessels, Koen & Tobias, 2020:1-9; Ronnie, 2019:1433-1435). The WHO (2020:2-4) provided guidance on the use of appropriate PPE during the COVID-19 pandemic. This included the usage of respirators with a particle filtration of 94% or 95%, goggles with an adjustable band to ensure a firm fit, and provision of different sizes of non-sterile examination gloves.

2.7.2.4 Physical and psychological effects

During the COVID-19 pandemic, restriction on social activities resulted in limited human contact and this had a negative psychological effect on humans. Furthermore, the sudden influx of COVID-19 patients required the healthcare sector to implement disaster protocols. As a result, frontline workers were extremely vulnerable to psychophysical stressors (Saladino, Algeri & Auriemma, 2020:2).

In the critical care environment, a CCN is likely to be subject to moral distress when they perceive that they cannot provide care according to their personal ethical standards. During the COVID-19 pandemic, CCNs were expected to continue delivering a high standard of care despite staff shortages, challenges relating to the prolonged wearing of PPE (excessive sweating), a shortage of beds, and the duty to

provide the necessary comfort to patients and their families (Bambi *et al.*, 2020:239-241).

A study conducted in Wuhan (China) showed that CCNs reported several other physical symptoms related to environmental and personal stressors. The most commonly reported physical symptoms were sleep disturbances, nausea and vomiting, pain, chest discomfort and fatigue (Yifan, Ying, Chunhong, Jing, Rong, Zhenyu, Zejuan & Peihung, 2020:51-52). Skin damage, especially on the bridge of the nose, was common due to the wearing of masks for prolonged periods of time (Shaukat, Mansoor & Razzak, 2020:3-5).

2.7.3 Organisation

2.7.3.1 Regulations

The Hospital Association of South Africa (HASA, 2022) is a non-profit association regulating private hospitals in South Africa. These hospitals are also governed by regulatory bodies including the Department of Health and SANC to ensure that safe and quality services are provided. Consequently, policies and processes must be in place to ensure regulatory compliance (Marx & Mynhardt, 2012:145-159). According to Marx and Mynhardt (2012:149), two of the key acts included in the regulatory compliance framework are the National Health Act (Act No. 61 of 2003) and the Occupational Health and Safety Act (Act No. 85 of 1993). During the COVID-19 pandemic, regulatory compliance was important to ensure the safety of patients and healthcare providers.

The National Health Act (Act No. 61 of 2003) regulates national health ensuring that health resources are available to all. This act outlines the duties and responsibilities of healthcare workers and healthcare institutions (Dhai & McQuoid-Mason, 2020:63). In accordance with the act, organisations must adhere to specific protocols and guidelines to ensure safety of healthcare users. Specific infection control guidelines and protocols relating to prevention, identification and management of health worker infection were distributed by WHO (2021:1-10) at the onset of the pandemic and as and when necessary during the pandemic. Healthcare facilities had to comply with regulations to prevent and combat the spread of COVID-19 as determined by the Disaster Management Act (Act No. 57 of 2002, Section 27 (2)). Some of these

measures included restrictions on in-hospital visits, screening of anyone entering the facility, and applying social distancing in crowded areas such as cafeterias. According to the COVID-19 regulations, as governed by the abovementioned act, organisations were required to adhere to the alert levels 1-5 as amended from time to time. The 5-level alert system relates to the level of restrictions imposed during the COVID-19 pandemic to prevent the spread of the coronavirus. For example, alert level 1 refers to the resumption of most normal activities with due adherence to prevailing health guidelines. During the pandemic healthcare facilities had to issue permits for healthcare workers travelling outside curfew times.

2.7.3.2 Budget

One of a nurse leader's responsibilities is financial management, which includes planning, monitoring, decision making and control (Naranjee, Ngxongo & Sibiya, 2019:3). The nurse leader is responsible for ensuring that the financial plan makes provision for adequate staff, medical supplies and equipment to ensure a functioning unit. The COVID-19 pandemic required the nurse leader to ensure that sufficient ventilators and oxygenators were available to provide for the increase in critically ill COVID-19 patients. Nurse leaders also had to plan and budget for sufficient skilled staff to meet the needs of COVID-19 patients who were frequently unstable and subject to rapid deterioration. Skilled nurses were required to detect such deterioration early and to manage the situation competently until a physician could attend to the patient (Shang *et al.*, 2020:7).

Budget during the COVID-19 pandemic:

The advent of the COVID-19 pandemic compelled healthcare institutions to implement various strategies to increase their capacity to accommodate the influx of COVID-19 patients (McCabe, Schmit, Christen, D'Aeth, Løchen, Rizmie, Nayagam, Miraldo *et al.*, 2020:2). Private healthcare is expensive and additional costs contributed to further financial challenges. Private healthcare facilities also had to make structural changes to provide additional isolation areas for COVID-19 patients. This was achieved in the CCUs and some general wards by installing glass partitioning. The cancellation of elective cases resulted in a 33% loss of hospital gross revenue (Tonna, Hanson, Cohan, McCrum, Horns, Brooke, Das, Kelly *et al.*, 2020:5).

Staff:

The increase in nursing time required for individual COVID-19 patient care in the CCUs led to more staff being required to provide overall quality care (Bruyneel, Gallani, Tack, d'Hondt, Canipel, Franck, Reper & Pirson, 2021:5). Critical care nurses with a post-basic qualification in critical care, or those with experience in critical care nursing, were required to care for the critically ill patients on ventilators thereby increasing human resource expenses. General ward staff received critical care upskill training, requiring agency staff to be hired on training days. As a result of high absenteeism related to staff illness, agency nurses had to be hired and this contributed to additional costs.

Equipment:

To be able to provide sufficient equipment for the influx of COVID-19 patients during the pandemic, nurse leaders were required to budget for additional ventilators, non-invasive ventilation devices, pharmaceuticals and consumables (Arabi *et al.*, 2021:286-287). Specific PPE, including N95 respirators and visors, was required to be worn during the COVID-19 pandemic to reduce the risk of contracting the virus. The PPE also had to be changed frequently during shifts (Tabah, Ramanan, Laupland, Buetti, Cortegiani, Mellinshoff, Conway Morris, Compromata *et al.*, 2020:72). Supply of sufficient PPE contributed to further increases in costs (Parker *et al.*, 2020:5-7). Private healthcare facilities purchased additional equipment for screening including thermometers and Internet Personal Access Devices (IPADS). Rapid test kits were required to be able to test patients and staff.

2.7.3.3 Quality assurance

Quality assurance is defined as the setting of quality standards, and this is stringently applied in healthcare facilities. These standards are continuously assessed to evaluate if the necessary processes are in place (Panneerselvam, 2017:234). Quality assurance in SA is guided by the National Policy on Quality in Healthcare which focuses on assuring quality care in the health care industry (Department of Health, 2007:6-8). This policy requires that healthcare providers stay abreast of the latest developments in health care, continuously assess the effectiveness of systems, and monitor the quality of care provided. In the context of this policy, the National Core Standards were introduced during 2008 focusing on the requirements for providing

safe and quality care (Whittaker, Shaw, Spieker & Linegar, 2011:62). Key focus areas for quality are patients' rights (values and attitudes), patient safety in terms of reducing adverse events, prevention of infection, ensuring the availability of sufficient medical equipment and supplies, and a reduction in waiting times, e.g. for surgery (Whittaker *et al.*, 2011:63).

Patient satisfaction is an important indicator of whether quality care was delivered. Satisfaction is related to continuous interaction and communication with patients (Karaca & Durna, 2019:535-541). Several studies have shown that increased patient loads resulted in missed care, especially in terms of providing comfort and communicating with patients (Aiken, Sloane, Ball, Bruyneel, Rafferty & Griffiths, 2018:5; Diab & Ebrahim, 2019:144); Griffiths, Recio-Saucedo, Dall'Ora, Briggs, Maruotti, Meredith, Smith. & Ball, 2018:1481-1482).

2.8 SUMMARY

The reviewed literature provided information on the experiences of CCNs working during the COVID-19 pandemic. Information was provided on the impact that the COVID-19 pandemic had on the patient, the CCN and organisational management of the pandemic. Furthermore, the conceptual framework demonstrated the interrelated factors of those affected by the COVID-19 pandemic. The research methodology applied in this study is discussed in the next chapter.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 INTRODUCTION

The findings of the literature reviewed on the topic of the experiences of critical care nurses (CCNs) working during the COVID-19 pandemic are presented in Chapter 2. This chapter provides an overview of the applied research methodology used to explore the experiences of CCNs working during the pandemic.

According to Gray and Grove (2021:721), research methodology refers to the steps followed in the research process to generate knowledge on a specific topic. Information provided in Chapter 3 includes the study setting, research design, data collection, data analysis and trustworthiness, followed by a summary and conclusion.

3.2 RESEARCH AIM

The aim of this research study is:

To explore the experiences of critical care nurses working at private hospitals in the Western Cape during the COVID-19 pandemic.

3.3 RESEARCH OBJECTIVES

The objectives of this study are to:

- Explore the experiences of CCNs working during the COVID-19 pandemic.
- Describe critical care nurses' experience of how the COVID-19 pandemic influenced caring for the critically ill patient.
- Describe the CCNs experiences of organisational management strategies during the COVID-19 pandemic.

3.4 STUDY SETTING

Grove and Gray (2019:254) state that a setting refers to the location where a research study will be conducted. The authors also use the term "natural setting" which refers to an uncontrolled real-life environment in which the researcher does not alter the

environment for the purpose of the study. This study was conducted at CCUs of two private hospitals in the northern suburbs of Cape Town in the Western Cape. There are seven private hospitals belonging to different hospital consortia in the northern suburbs of Cape Town. The two private hospitals in which the study was conducted belong to the same hospital group and both have Level 3 CCUs.

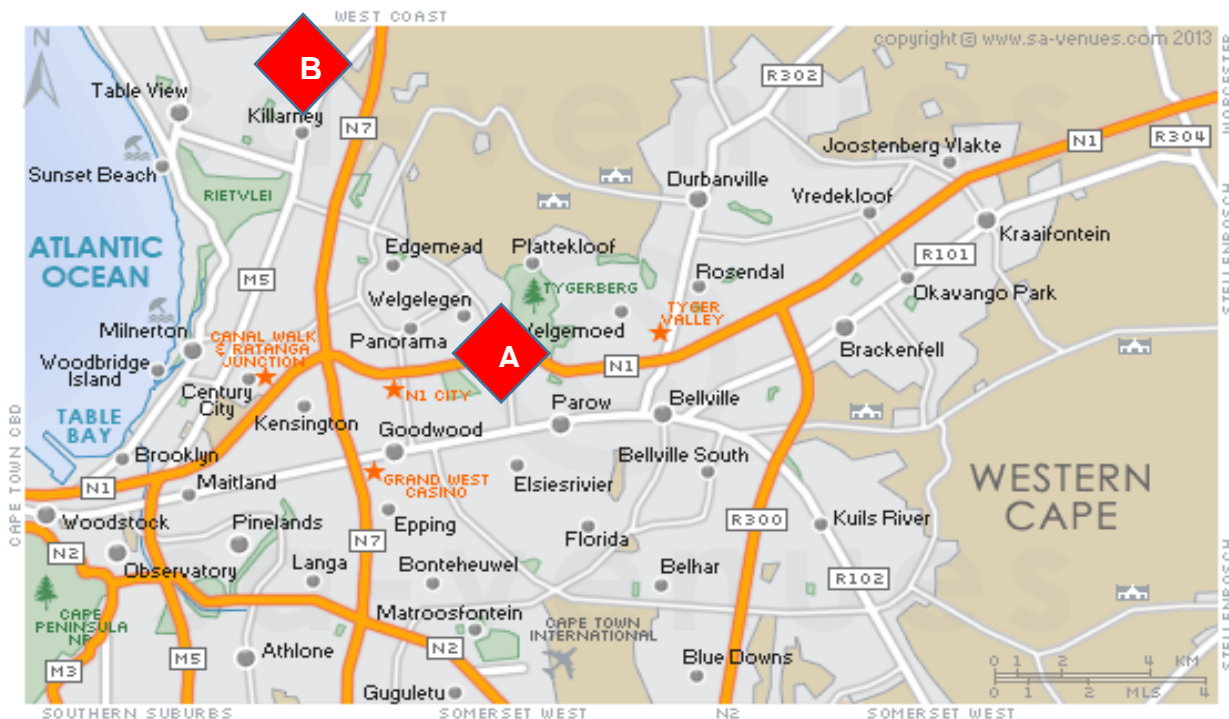


Figure 3.1: Map of the northern suburbs of Cape Town in the Western Cape

A Level 3 CCU is defined as a unit in which critically ill patients are nursed by staff trained or experienced in critical care, a physician is on call 24/7, and other team members from the multi-disciplinary team are also involved in the care of the patient (Marshall *et al.*, 2017:264-275).

Hospital A has a total of 28 critical care beds, and these are divided into two separate CCUs – a 20-bed general CCU and an 8-bed vascular unit. Hospital B has a total of 21 critical care beds. Medical patients with cardiac conditions, such as coronary artery disease, heart failure, respiratory conditions including respiratory failure, and renal failure patients are admitted to these units. Patients who have undergone surgical procedures including abdominal surgery, cardio-thoracic surgery and vascular surgery receive post-operative care in these units.

3.5 RESEARCH DESIGN

A descriptive qualitative research approach was used in this study. According to Grove and Gray (2019:60), this systematic and subjective design is appropriate for describing individual life experiences. The qualitative research method assisted the researcher to obtain a deeper understanding and provide a detailed description of the experiences of CCNs working in the CCU during the COVID-19 pandemic (Rahman, 2016:104).

3.6 POPULATION AND SAMPLING

3.6.1 Population

Population refers to a specific group of people or elements which meet the inclusion criteria, and these are the focus of the research study (Grove & Gray, 2019:229). The population for this study included registered nurses (N=58) working in the CCUs at the private hospitals involved in this study. A target population refers to all individuals or elements who meet the sampling criteria and the accessible population refers to the individuals or elements to which the researcher has access (Grove & Gray, 2019:229). The authors also state that a comprehensive study of the entire population is difficult due to accessibility of the population, time and practicality. A sample is therefore used as this is the most effective way to represent the population and to ensure that in-depth data is obtained (Vasileiou, Barnett, Thorpe & Young, 2018:2). Based on the inclusion criteria, the researcher purposively selected 10 CCNs who were able to provide rich, in-depth information based on their experiences of working during the COVID-19 pandemic.

A sample size refers to the number of participants who will be participating in the study (Grove & Gray, 2019:251). According to Vasileiou *et al.* (2018:5), in qualitative research a sample size can be regarded as adequate when data saturation is reached. The findings of a systematic review to assess data saturation in qualitative research revealed that data saturation is usually reached at a point between 9 and 17 interviews (Hennink & Kaiser, 2022:7). The target population for private hospitals is depicted in Table 3.1.

Table 3.1: Population and sample size

Name of hospital	Total population (N)	Sample (n)
1. Hospital A	30	5
2. Hospital B	28	5
Total	58	10

3.6.2 Sampling method

In this study, purposive sampling was used to select participants who could provide knowledge about a specific phenomenon (Grove & Gray, 2019:75). Purposive sampling refers to the selection of participants who can provide in-depth information (Grove & Gray, 2019:248). Based on the inclusion criteria, the researcher purposively selected CCNs who were able to provide rich, in-depth information based on their experiences of working during the COVID-19 pandemic. Data saturation was achieved with the 10th participant, but should data saturation not have been reached, additional participants would have been interviewed.

3.6.3 Selection of participants

Approval to conduct the research was received from Stellenbosch Health Research Ethics Committee (HREC Reference Number: S22/02/04_COVID-19) (Annexure 1) in May 2022. Institutional permission (Annexure 2) was obtained in July 2022 and the primary researcher began recruiting participants in August 2022 (Gray & Grove, 2021:442). Unit managers of the CCUs involved assisted the primary researcher in identifying potential participants.

The researcher held information sessions with potential participants to explain the purpose of the study and the research process. During these information sessions, potential participants were asked if they would be interested in participating in the research study. The researcher also obtained the contact details of other potential participants who met the inclusion criteria. A fieldworker was employed to assist with data collection. The fieldworker was provided with the contact details of all participants (Hospital B) who agreed to participate in the study. In compliance with the Protection of Personal Information Act (Act No.4 of 2013), contact details were obtained with the permission of the participants. The information leaflet regarding the study was emailed

or texted to all potential participants informing them of the purpose of the study and requesting their participation in the study.

Either during the information sessions or via text messages or by means of email communication, 22 potential participants indicated their willingness to participate voluntarily in the study. Participants agreed on a date, time and venue convenient to them for the interviews. It is generally accepted in qualitative research that between 8 and 12 interviews are required to capture the majority of emergent themes (Guest, Namey & Chen, 2020:13). A total of 10 participants were interviewed, 5 at Hospital A and 5 at Hospital B. Data saturation was achieved with the tenth interview. Saturation refers to the point at which no new information or themes are being obtained from interviews (Grove & Gray, 2019:248).

3.6.4 Inclusion criteria

- Registered nurses (RNs) who have been permanently employed for at least one year in the critical care unit and provided direct nursing care to COVID-19 patients. This included RNs that are critical care trained (certificate course or post-basic diploma and degree in critical care) or are experienced.

3.6.5 Exclusion criteria

- Potential participants who were on leave at the time of data collection.
- Registered nurses that no longer work in the critical care units at the time of data collection.

3.7 DATA COLLECTION TOOL

The term data collection instrument refers to the tools used in research studies to collect data (Grove & Gray, 2019:77). In this study a semi-structured interview guide was used to collect data (Appendix 4). This type of interview guide consists of specific questions to which the responses of the participants may not necessarily be similar (Grove & Gray, 2019:77). The interview guide consisted of two sections: Section A contained close-ended questions to provide demographic data e.g., nursing qualifications and years of experience as a registered nurse. Section B comprised of four open-ended questions guided by the objectives of the research study and the literature reviewed.

3.8 PILOT INTERVIEW

A pilot interview refers to a preliminary interview conducted prior to embarking on the main study to test the interview questions and improve the interview guide if necessary (Majid, Othman, Mohamad, Lim & Yusof, 2017:1074). The pilot interview assesses the reliability and validity of the data collection tool and, should it be necessary to do so, the questions can be modified accordingly (Wray, Archibong & Walton, 2017:7). In this study, no modifications to the interview guide were required as no problems were identified during the pilot interview.

The researcher conducted a pilot interview with one participant (Registered Nurse) who met the inclusion criteria outlined in 3.6.4. The pilot study participant was one of the ten selected participants. Permission was granted and consent obtained from the participant for both the interview and for the use of a tape recorder to record the responses. Data obtained during the pilot interview was included in the main study findings to avoid the loss of any information which may be relevant to the research question (Ismail, Kinchin & Edwards, 2017:6).

3.9 TRUSTWORTHINESS

Trustworthiness refers to truthfulness of the collected data and the confidence in this data to ensure quality (Grove & Gray, 2019:362). The researcher ensured trustworthiness by applying Lincoln and Guba's (1985, cited in Connelly, 2016: 435) principles of credibility, transferability, dependability and confirmability.

3.9.1 Credibility

Credibility refers to the accuracy of the collected data and does not reflect the view of the researcher (Nowell, Norris, White & Moules, 2017:3). Credibility was ensured by means of peer debriefing during which the supervisor reviewed the transcripts against the developed themes to assess if the researcher's themes were a true reflection of the participants' views. Peer debriefing requires a qualified and unbiased peer to review transcripts and the methodology of a study (Nowell *et al.*, 2017:7).

Furthermore, member checking was used to ensure credibility. Member checking refers to the sharing of interview transcripts and themes with participants (Gray & Grove, 2021:318). Participants were informed via email and text messages that the

transcripts were ready for review. The participants were given the opportunity to review hard copies of the transcripts to check their statements for accuracy. All participants reviewed the transcripts and verified that they were satisfied with the collected data and the interpretation thereof.

3.9.2 Transferability

Transferability refers to how findings can be used in other settings (Connelly, 2016:435). The researcher provided a comprehensive description of all the steps followed in the research process including the recruitment of participants, data collection, analysis and interpretation. The decision as to whether the findings can be used in other settings is to be determined by the reader and not the researcher (Nowell *et al.*, 2017:3). The researcher continued to collect data until data saturation was achieved. This ensured that all possible relevant information was obtained from the study participants.

3.9.3 Dependability

Dependability refers to the stability and thoroughness of data to ensure that similar findings would be obtained if the study was repeated at a later date (Connelly, 2016:435). This implies that the results of a study will be comparable when the same study is performed by another researcher following the same methods in a similar context and the same conclusions will be reached. Dependability was ensured by documenting every step of the research process in the research report, including the data collection method and data analysis (Cypress, 2017:258). The method employed for data collection and analysis was audited and validated by the researcher and supervisor of the study.

Recorded interview data was transcribed verbatim and analysed after each interview and was further verified by the supervisor who is an expert in qualitative research. The researcher kept an audit trail of the entire research process This included field notes, raw data, transcripts and a reflexive journal (Nowell *et al.*, 2017:4). In this study the researcher verified the transcribed data recorded during the interview with the fieldworker. The researcher and the fieldworker discussed the transcripts to clarify differences of opinion to ensure that the interpretation of the transcripts was congruent with the recorded interview. The data was verified for authenticity and accuracy to

confirm that it was the actual data recorded during the interview. The study supervisor, an expert in qualitative data analysis, verified the analysis of data and subsequent themes and sub-themes. The supervisor reaffirmed that the themes and sub-themes should adhere to and be linked to the research framework of study. In most cases the supervisor agreed with the themes and sub-themes identified by the researcher.

3.9.4 Confirmability

Confirmability refers to the degree of consistency of interpretation and findings derived from the data (Nowell *et al.*, 2017:3). Confirmability was ensured by means of an audit trail, tracing outcomes, conclusions and summaries and references to source documents like field notes and transcripts. Thematic analysis was done by following well-described qualitative methods (Maguire & Delahunt, 2017). Regular discussions and meetings were held between the researcher, the supervisor and the fieldworker to discuss possible inconsistencies in the data collecting process or in the information collected.

The researcher kept an audit trail of all themes and sub-themes to demonstrate the internal agreement between raw data and the final themes. This audit trail included field notes and interview transcriptions. The researcher and supervisor reviewed data to ensure findings and conclusions were logical and not influenced by the researcher's own ideas and perceptions.

The researcher kept a reflexive journal during the research process to record all reflections and decisions made. By means of bracketing and reflexivity the researcher ensured an awareness of her own biases and assumptions. Bracketing refers to setting aside one's own beliefs (Gray & Grove 2021:81).

3.10 DATA COLLECTION

Data collection commenced after ethical clearance and institutional permission were obtained.

3.10.1 Interview setting

Interviews were conducted in the training rooms of the participating hospitals. The interview locations were private, free from disturbances, and accessible to the

participants. The researcher, fieldworker and participants' telephones were silenced to prevent interruptions during the interviews. According to Gray and Grove (2021:333), the area where interviews are held should be a neutral place where the participants feel comfortable. To ensure ease and comfort, the interviewer and participants sat at a table in comfortable chairs opposite each other.

Prior to the interviews the researcher provided refreshments to create an opportunity for social connection between the interviewer and participant (Gray & Grove, 2021:333). To avoid interfering with hospital operational functions all the interviews were conducted during the participants' tea or lunch breaks. This was agreed with the unit managers. Participants were also given a gift voucher to compensate them for their time and participation in the study.

3.10.2 Interview procedure

Data was collected by means of individual face-to-face interviews. A semi-structured interview guide was used to conduct the interviews (see Appendix 4). The individual interviews allowed the interviewer to obtain in-depth data about the experiences of participants working in CCUs during the COVID-19 pandemic (Grove & Gray, 2019:77).

The primary researcher conducted interviews in Hospital B. As the researcher is employed by Hospital A and oversees training in the CCU, and as direct involvement of the researcher could influence participants' provision of information, interviews at Hospital A were conducted by a fieldworker. According to Gray and Grove (2021:334), interviewers should practice and develop competent interview skills to ensure that high quality data is obtained. The researcher, therefore, received training on conducting interviews in a structured master's workshop during which the principles of interviewing were discussed and practiced. The researcher practiced interview skills through role play with the study supervisor prior to the pilot interview.

The fieldworker received training in conducting interviews from the researcher and the study supervisor and these skills were also practiced through role play prior to the first interview and again prior to two more interviews. The fieldworker, a RN at a private healthcare institution, has a master's degree in nursing and therefore has practical

research experience. The fieldworker's domain is quantitative research and therefore training in the conducting of interviews was necessary.

All the interviews began with a non-threatening question which was "tell me about your experiences working in critical care unit during the COVID-19 pandemic". This was followed by probing questions such as "tell me more about your experiences regarding the PPE" and "tell me about the lack of support from management". This strategy made participants feel at ease when talking about their experiences and encouraged them to elaborate freely. Furthermore, the open-ended questions allowed the researcher to obtain information-rich data about CCNs' experiences working during the COVID-19 pandemic (Grove & Gray, 2019:77).

Interviews were recorded with a digital voice recorder and a second digital voice recorder was available as a back-up. Field notes were taken during the interviews. Grove and Gray (2019:81) describe field notes as handwritten notes giving a detailed description of the participants' views during the interview. A numbering system for the field notes was decided on with the field worker prior to the commencement of the interviews e.g. Hospital A, P6. Audio recordings were transcribed by an independent transcriber.

Bracketing was applied during which the setting aside of any emotions, motivations or any preconceived ideas allowed the researcher to focus on the experiences of the participants (Grove & Gray, 2019:468). Reflection was also applied during the interviews by empathetically and actively listening to the experiences shared by the participants. Reflection allowed the researcher's own feelings and experiences of the phenomenon to be explored and analysed. This self-awareness allowed the researcher to focus on the participants' views and to identify any researcher biases (Sandvik & McCormack, 2018:4-5). The interviewers tested an understanding of what was shared by summarising the shared experiences (Arnold, 2014:354-367). Summarising was applied during the interviews by condensing key points shared by the participants after specific experiences were stated (Brailon & Taiebi, 2020:1867). This allowed the interviewers to collate and link the shared information.

3.10.3 Interview duration

Moser and Korstjens (2018:13) state that individual interviews last an average of 30–60 minutes. During this study the duration of each interview ranged from 30–60 minutes, depending on the amount of information provided by the participants about their experiences of working in the CCUs during the COVID-19 pandemic.

3.10.4 Time frame

Data collection commenced during August 2022 and interviews were conducted over a six-week period.

3.11 ETHICAL PRINCIPLES

Approval from the Human Research Ethics Committee (HREC) of Stellenbosch University (SU) (Appendix 1) was obtained in May 2022 and institutional ethical approval (Appendix 2) was obtained in July 2022. The researcher was guided throughout the research process by four fundamental principles – respect for persons, beneficence and justice.

3.11.1 Respect for persons

According to Pera and Van Tonder (2018:65), autonomy is an ethical principle that respects the right of a person to make their own decisions. Potential participants were informed about the research purpose and process during information sessions held at the healthcare facilities. Participants were also emailed and texted the details about the research. Potential participants were informed that they had the right to refuse or withdraw from the study at any time without repercussions. Participants gave verbal permission to participate voluntarily in the study. Written informed consent as well as consent to record interviews (Appendix 3) was obtained from all willing participants prior to the commencement of interviews.

3.11.2 Right to privacy and confidentiality

Everyone has the right to privacy and each individual can determine the extent to which and the circumstances in which private information is shared or withheld (Grove & Gray, 2019:95). Participants have the right to anonymity and confidentiality and therefore individual responses and data cannot be linked to the participant. Confidentiality is assured and private information will be managed safely and not

shared without consent (Grove & Gray, 2019:100). The transcriber signed a confidentiality agreement prior transcription of data to ensure data is treated confidentially (Appendix 5).

To maintain confidentiality, the names of the participating hospitals and participants were identified using a pseudonym on all relevant documents, such as field notes and transcriptions. Research findings were reported without referring to the names of participants or to specific healthcare facilities to ensure that data cannot be linked to individual responses. Although direct quotes from participants were included in Chapter 4, these quotes were documented under a number allocated to participants, e.g., P2, to ensure that data could not be linked to participants (Gray & Grove, 2021:207).

All voice recordings were stored on a password-protected computer and on an external hard drive which is stored in a safe at the researcher's private home. The data is only accessible to the researcher and the supervisor (Stellenbosch Research Data Management Regulations, 2021:9-10).

3.11.3. Beneficence and non-maleficence

Individuals have the right to protection from physical discomfort and this entails doing good and causing no harm (Grove & Gray, 2019:96). This study posed no direct danger or risk to the participant, but it may have prompted some unpleasant memories (Butler, Copnell & Hall, 2019:228; Grove & Gray, 2019:101). Although minimal risk was anticipated for this study, participants were continuously assessed during the interviews for any signs of emotional discomfort as they relived some difficult scenarios. Some participants were emotional while sharing some of their experiences but despite being given the option of terminating the interview, they chose to continue. Participants were also informed that if they became distraught or requested counselling because of inclusion in this study, the researcher would refer them to a counsellor and assist them in locating professional help should the need arise.

While the study did not have direct and immediate benefits, it is anticipated that the findings of the study will assist the hospitals to implement improved policies for COVID-19 patient management as well as provide a more supportive work

environment (training, mental and physical support, etc.) to better equip critical care nurses in the event of similar disaster situations.

3.11.4 Justice

Each person has the right to be treated fairly (Grove & Gray, 2019:96). Fair treatment in research studies is based on the selection of participants related to the problem of the research study (Gray & Grove, 2021:207). Information sessions were held with nursing staff on four different day and night shifts to include as many potential participants as possible in the study. Purposive sampling was used to select participants. Although purposive sampling is also referred to as 'selective sampling' and can result in bias, it was the sampling method of choice as it requires the selecting of information-rich participants (Grove & Gray, 2019:248). Participants in this study were treated fairly and their participation in the study was entirely voluntary. Every participant was given an opportunity to share their experiences and views of nursing patients during the COVID-19 pandemic.

3.12 DATA MANAGEMENT

Management of data refers to the conversion of audio recordings and paper notes to text for analysis (Gray & Grove, 2021:341). All data must be organised and safely stored to ensure privacy and confidentiality. Audio recordings were downloaded on to a hard drive after every interview. The recordings were stored in digital files, labelled with the interview date, the healthcare facility and a specific identifying number was allocated to each participant, e.g., Hospital A, Participant 6 or P6. All the field notes, transcripts, informed consent forms, demographic data and the researcher's reflexive journal are stored in a secure safe at the researcher's home. All hard copies of documents pertaining to the research study were scanned and stored in digital format. All documents pertaining to the research study will be locked in a safe for a period of 5 years (Buys, 2017:954).

Only the researcher, study supervisor, field worker and the transcriber had access to the data. The transcriber signed a confidentiality agreement (Annexure 5) to ensure that the confidentiality of participants was protected. The consent forms, demographic data and field notes of each healthcare facility were stored in a separate folder. The researcher and field worker agreed on the filing system to file the field notes of the different interviews (Grove & Gray, 2019:79). The field notes were filed according to a

specific system, e.g., Hospital A, P6. To keep a log of who worked on the document, an Excel file was created identifying the file name, date, and type of documents.

3.13 DATA ANALYSIS

Data analysis refers to the breakdown and interpretation of raw data in order to derive meaning from the information gathered (Gray & Grove, 2021:343). Data analysis and the collection of data occurred simultaneously, thereby allowing the researcher to collect, review and interpret the data at the same time (Grove & Gray, 2019:84). Braun and Clarke's (2006) thematic data analysis method was applied to analytically examine narrative data from life stories (Maguire & Delahunt, 2017:3352). This is a method for identifying, analysing, organising, describing and reporting patterns or themes found within data (Nowell *et al.*, 2017:2-11).

3.13.1 Familiarisation with data

Familiarisation of data is the first step in qualitative research to ensure the researcher obtains an overview of all the data (Maguire & Delahunt, 2017:335). Audio recordings were transcribed verbatim after every interview. The researcher ensured she familiarised herself with the data through listening to the audio recordings and reading the verbatim transcripts several times. The researcher also read the field notes to provide a better understanding of the experiences of CCNs working during the COVID-19 pandemic. The researcher read transcripts once and thereafter re-read the transcripts and field notes and made notes of initial ideas or impressions of possible codes (Vaismoradi, Turunen & Bondas, 2013:5).

3.13.2 Generating initial codes

According to Grove and Gray (2019:85), coding refers to reading the information gathered, breaking it down into separate sections and labelling words or phrases. According to Braun & Clarke (2006), generating initial codes is the organisation of raw data in a systematic manner. The aim of this step is to identify specific statements made by the participants in relation to the research question.

The researcher did not use pre-set codes, but developed and modified codes during the course of the coding process (Maguire & Delahunt, 2017:3355). The researcher used highlighters when working through the hard copy transcripts to generate or

modify codes. Codes with the same colours were then grouped together. The field notes were compared with the transcripts to ensure that the researcher had a comprehensive view of what the participants shared during the interviews – verbally and non-verbally. Field notes are written notes of what was heard, seen and experienced by the interviewer (Grove & Gray, 2019:81). After the generation of the codes, the researcher recorded the information on an Excel document to organise all identified codes. Direct quotes obtained from the field notes were included in the final report to support and provide a better understanding of certain themes (Nowell *et al.*, 2017:11). To ensure and maintain participants' anonymity, numerical codes such as P1 or P2 were used. Moreover, as the understanding of the data improved, the identified themes and sub-themes were adjusted, and the codes changed.

3.13.3 Searching for themes

Themes are patterns that originate from codes and highlight important aspects of the data or research question (Grove & Gray, 2019:85). The researcher examined all the identified codes and some codes emerged as potential themes. These grouped codes were then collated into potential preliminary themes allowing the researcher to identify patterns in the data relevant to the research question (Nowell *et al.*, 2017:8). For example, several codes related to how stressful it was working during the COVID-19 pandemic. These codes were collated into an initial theme of 'stressful work environment'.

3.13.4 Reviewing themes

During this phase all preliminary themes which had been identified were reviewed to determine their credibility. All the interview data relevant to each theme was gathered and colour coded in the Excel document. Subsequently, the researcher assessed if all data relevant to the different themes was sufficient to support the identified theme (Maguire & Delahunt, 2017:3358).

The researcher checked if the themes were relevant to the extracts and data (Vaismoradi *et al.*, 2013:5). Some themes overlapped and sub-themes were identified. Following this step, themes emerging from data became clear.

3.13.5 Defining and naming themes

During this phase, the researcher continued with ongoing analysis and interpretation of data and definition of the themes. The researcher aimed to determine the core of each theme, how the sub-themes relate to the main theme, and how the themes relate to each other. The researcher considered how the main identified themes relate to the experiences of CCNs working during the COVID-19 pandemic e.g. any themes that related to the care of COVID-19 patients (Vaismoradi *et al.*, 2013:5).

3.13.6 Producing the report

This final step is the final analysis and description of the findings. The discussion of each theme, assumptions underpinning of each theme and the practical implications thereof will be provided in Chapter 5. Discussion in this chapter is related to the research question and the reviewed literature (Nowell *et al.*, 2017:11).

3.14 SUMMARY

In this chapter the research methodology and design used in this study were discussed. A detailed description was provided regarding the population, sampling method data collection and management of data. Braun and Clarke's (2006) thematic data analysis method was applied to critically analyse data obtained from one-to-one interviews and to categorise this data into specific themes. This chapter also provided a detailed discussion of the application of Lincoln and Guba's (1985, cited in Connelly, 2016:435) principles of credibility, transferability, dependability and conformability to ensure trustworthiness. The fundamental ethical principles which guided the researcher throughout the research process were discussed. In Chapter 4 a detailed description of the findings of this study will be provided.

3.15 CONCLUSION

A descriptive qualitative method was used in this study as it assisted in the provision of a deeper understanding of the experiences of CCNs working during the COVID-19 pandemic. A purposive sampling method was applied to select information-rich participants who shared their experiences working during the pandemic. The next chapter provides a discussion on the findings of the study.

CHAPTER 4

FINDINGS

4.1 INTRODUCTION

Chapter 3 discussed the applied research methodology and design used in this study. Data was obtained through individual interviews and analysed according to Braun and Clarke's (2006) thematic data analysis method. Findings are presented in two sections – Section A relates to participants' demographic/biographical data and Section B focuses on the themes and sub-themes that emerged from the raw data, supported with direct quotations from participants. Participants were allocated numbers to ensure that their privacy was not violated.

4.2 SECTION A: BIOGRAPHICAL DATA

4.2.1 Gender

All the participants were female registered nurses working in the critical care units of private hospitals. The South African Nursing Council's 2021 geographical distribution statistics confirms the female dominance in nursing (South African Nursing Council Statistics, 2021).

4.2.2 Age

The ages of the participants ranged from 25–60 years. The majority (n=4) of the participants were aged between 40–49 years. According to South African Nursing Council (2021), 26% of registered nurses in South Africa fall into the age group of 40–49 years. Nurses 55 years and older are approaching retirement and some studies refer to strategies to retain older nurses (Maurits, De Veer, Van Der Hoek & Francke, 2015:3-4; Uthamanuthaman, Chua & Ang, 2016:50-53). According to the Public Service Act, as amended (Act No. 103: 1994), the fixed retirement age in South Africa is 65 years.

4.2.3 Nursing qualifications

All participants have either an undergraduate diploma or an undergraduate degree in nursing. Five participants have post-graduate qualifications in critical care nursing. Three participants have successfully completed a six-month certificate course in elementary critical care nursing. According to Matlakala and Botha (2016:50-51), South Africa is facing critical shortages of trained critical care nurses. Furthermore, only 118 additional qualifications in critical care nursing were obtained in 2021, indicating that not many critical care nurses are trained each year (South African Nursing Council statistics, 2021).

4.2.4 Experience as a registered nurse

The participants' experience as registered nurses varied between 4 and 40 years. Years of experience as a registered nurse in a CCU ranged from 1 year to 26 years. Most participants had 4 to 5 years' experience in critical care units. See Table 4.1 for a summary of the biographical data.

Table 4.1: Biographical Data

Institution	Hospital A	Hospital B
Gender: Female	5	5
Age		
25 – 30 years	0	1
31 – 40 years	0	1
41 – 50 years	3	3
51 – 60 years	2	0
Qualifications		
Undergraduate Diploma	4	4
Undergraduate Degree	1	1
Post Graduate Qualification (Critical Care)	4	1
6-Month Elementary Critical Care Course	1	2
Years' experience as Registered Nurse		
1 – 5 years	1	2

11 – 20 years	3	3
21 – 30 years	1	0
Years' experience in critical care units		
1 – 5 years	1	5
11 – 20 years	3	0
21 – 30 years	1	0

4.3 SECTION B: THEMES EMERGING FROM THE INTERVIEWS

Six main themes emerged from the data analysed and 17 sub-themes emerged from the 6 main themes. Table 4.2 provides a summary of the main themes and sub-themes. The themes and sub-themes are discussed below.

Table 4.2: Themes and sub-themes

Themes	Sub-themes
Critical care work environment	Working conditions Physical environment Social environment
Managing human resources	Availability of resources Leadership and support Incentives
Staff planning and management	Staff allocation and delegation Recruitment Policies
Staff wellbeing	Physical health Psychological health
Quality of patient care	Delayed patient care Patient neglect Holistic care
Surviving COVID-19: unexpected outcomes	Team spirit Professional growth New beginnings

4.3.1 Critical care work environment

The participants regarded the work environment – physical and social – as unhealthy, and this may impact on CCNs and patients. The most common reasons cited for this

view were a heavy workload caused by a large influx of patients, anxiety around the spread of the disease, wearing uncomfortable PPE, working longer hours and being short staffed.

Working conditions - Critical care nurses work 12-hour shifts, from 07:00-19:00 with 30-minute tea breaks and a 1-hour lunch break. Some participants stated that their working days were longer during the COVID-19 pandemic as they started work earlier to avoid long screening queues. Participants also reported that they always left late at night (around 20:00) when working in COVID-19 CCUs.

“And you always leave late because with COVID I always got home at 8 o’clock at night” (Participant 7).

In addition to working late, no leave was granted during the pandemic and this caused job dissatisfaction. Critical care nurses are entitled to 2–4 weeks leave at least twice a year. Some participants mentioned that they were unable to take leave during the COVID-19 pandemic due to a shortage of staff, heavy workloads and CCUs being overcrowded with COVID-19 patients.

“...but for the leave story we couldn’t take leave because of staffing and the workload, because we were quite full with the COVID” (Participant 7).

Furthermore, participants stated that they were unable to take proper tea, lunch and bathroom breaks, due to the lengthy time required to don and doff PPE.

“...and you can’t drink water in between patients because then you will have to take off your PPE, go and drink water, then come back and then put on PPE, so it took a long time” (Participant 3).

Participants reported that wearing PPE was uncomfortable and some experienced claustrophobia.

“It was so warm and so stuffy, you couldn’t move and you were always sweating and you could never just breathe, normal cold air” (Participant 9).

Personal protective equipment was critical in preventing CCNs from contracting the virus and healthcare institutions emphasised the importance of wearing PPE. Staff

were also taught the correct way of donning and doffing PPE. Some participants expressed doubts about the PPE's safety and expressed concern about being the first to die if it failed.

"...am I going to be the first one who is going to die should this PPE not work? Because for some reason, no-one actually knows if it was 100% safe"
(Participant 8).

Despite the discomfort and scepticism about the wearing of PPE, participants mentioned its importance in the prevention of illness, as expressed below.

"So just stick to this PPE, so probably the size is 100% on this one. I never got ill" (Participant 8).

Physical environment – Most participants indicated that the physical space of a CCU should be large enough to accommodate a certain number of beds while still allowing access to all the equipment. Critical care units typically have one or two isolation rooms for infectious patients but during the pandemic these were insufficient to accommodate all the COVID-19 patients. Participants also revealed that some healthcare institutions converted waiting rooms into change rooms for the donning and doffing of PPE. In addition, healthcare institutions created COVID-19 areas by installing glass partitioning and sliding doors as described below.

"...they put glass partitioning up between all the beds, and there were sliding doors that closed the sections off" (Participant 1).

The COVID-19 areas were not considered to be practical. One participant stated that a particular COVID-19 area did not have the required facilities explaining that there was no sluice to provide for the patient's needs. This area was therefore considered unhygienic.

"...and that was also turned into a red area. But there's one hand basin, there is no sluice room, there's no bathroom. And how do you deal with that? I mean, you still got to deal with patients needing bedpans... And it was a, to me in itself was a very unhygienic area" (Participant 1)

Participants also mentioned that another measure implemented to prevent the spread of the COVID-19 virus was the creation of separate tearoom for staff working in COVID areas.

“...we had our own tearoom as people who looked after COVID patients”
(Participant 9).

Although participants appreciated having a separate tearoom, they felt isolated as they were unable to interact with colleagues from other departments. One participant noted that working in the COVID-19 area and being isolated from normal life was comparable to being in a cage.

“It was almost like you were caged in and you were looking at the normal, almost wishing like you were part of the normal” (Participant 9).

One participant explained that during the pandemic a new online medical record system was implemented. The timing of the implementation resulted in critical care nurses having to learn a new system whilst simultaneously dealing with the stressors caused by the pandemic.

“So you were at the same time learning this whole new online system. And you were doing paper and Care on. So you know, that added to the whole scenario as well” (Participant 1)

Some participants stated that in addition to the stress caused by the COVID-19 pandemic, they also had to learn how to operate equipment they were unfamiliar with such as ventilators and Continuous Venovenous Haemodialysis (CVVHD) machines.

“Now we had to learn to use these CVVHDs with the ventilator, with everything else that was going on” (Participant 5).

Coupled with the necessity of working with unfamiliar equipment, participants indicated that working during the pandemic felt like being in a warzone but they were obligated to report for duty and do their job.

“It felt like war, you just go in and do what you have to do” (Participant 9).

In addition to the heavy workload and staff shortages, the physical layout of the CCU also contributed to the job dissatisfaction of CCNs.

Social environment – The COVID-19 pandemic exacerbated stress and had a significant impact on the social environment. Participants revealed a high level of stress because of heavy workloads. Some participants stated that staff were stressed and that more conflict occurred during the COVID-19 pandemic.

“People were fighting, people were stressed...but it was COVID and now it was severe than the previous fights” (Participant 8).

Similarly, another participant expressed the view that doctors did not always contact the patient's family members and left it up to the CCNs to do so thereby adding to the stress as reflected below.

“...what we came across was the doctors were didn't follow up with the patient's family. Everything was left for the nurses to do” (Participant 1).

In contrast, one participant mentioned that physiotherapists assisted them in providing quality patient care.

“The physiotherapists, they were very good at, they were actually very excellent helping the COVID patients” (Participant 7).

Overall, participants expressed their apprehension of receiving telephone calls from family members because they were unsure of whether and how to share specific information. Several participants also regarded phone calls as an interruption because their priority was to care for patients rather than answer telephone calls, as indicated below.

“It was like some form of irritation, irritation in the sense that you just want to go back to your work, not answering phone calls” (Participant 2).

In addition to the apprehension around the answering of phone calls, some participants felt conflicted about sharing patient-related information, especially given their limited scope of practice in terms of what information can be disclosed.

“Find a way of explaining to this person that, explaining the condition that was very stressful...now I'm thinking of my profession as well. Should I divulge how do divulge” (Participant 8).

Furthermore, participants noted that there were some situations which involved patients' missing valuables. Consequently, the already stressed CCNs were also forced to attend to complaints about missing clothes and valuables. When patients are admitted to the CCU their valuables and clothes are usually sent home with family members. This practice was difficult to implement during the COVID-19 pandemic because visitors were not permitted access. Participants implied that patients' clothes and valuables were either misplaced or stored elsewhere, were not properly labelled, or were only discovered a few months later.

“Valuables was a lot of problems in the COVID because you know... the patient is so sick, or the patient comes from trauma and the patient's clothes and valuables just get misplaced...sometimes, we get patients valuables only a few months after...or it was not labelled properly or it was stored somewhere else” (Participant 7).

The social environment in the CCU was negatively affected by the staff shortage and the heavy workload caused by the influx of patients. This resulted in CCNs not communicating effectively among themselves or with doctors. In contrast, CCNs had a positive working relationship with the physiotherapists. Adding to the tension were the complaints about misplaced clothing and valuables.

4.3.2 Managing human resources

Management is responsible for providing a healthy work environment with sufficient resources, including staffing and PPE supplies. The prevailing global shortage of specialist CCNs was evident during the COVID-19 pandemic. In addition, the importance of planning for the potential impact of a pandemic rapidly became clear, both at operational and organisational level, to ensure that CCUs are prepared for the increased demand on critical care services including equipment and staff. Participants indicated that the shortage of staff and equipment posed a major challenge for management throughout the pandemic and resulted in dissatisfied staff.

Availability of resources – Participants revealed that during the pandemic CCUs were always understaffed and many permanent nursing staff contracted the coronavirus.

“...I can remember we were always short-staffed.” People would be sick. Our permanent staff would be sick” (Participant 9).

Aside from the shortage of staff, there was also a shortage of equipment. Personal protective equipment was provided to CCUs, but participants stated that there were times when the correct sizes of PPE, such as gloves, were in short supply.

“...sizing sometimes with the gloves were wrong, I’m a small so there’s always medium and large gloves but you really struggled” (Participant 4).

Several participants indicated that staff also had to contend with a shortage of masks, as is described below.

“...there was mos a shortage of masks, so you had to put, look after your mask” (Participant 3).

In summary, the shortages of staff and PPE (masks and gloves) had an impact on the CCNs’ work and, consequently, the patients.

Leadership and support – This sub-theme includes the negative experiences nurses had with hospital management. The three key aspects that emerged from the interviews were support or the lack thereof and leadership styles. There were mixed feelings about management support.

To facilitate information sharing during the pandemic, hospital management used a variety of communication methods, such as text messages and memos, to communicate COVID-19 protocol changes. One participant explained that management set up a WhatsApp group on which CCNs could receive messages about COVID.

“...there was a toolbox, we would get WhatsApp’s on our ICU group” (Participant 1).

One participant was dissatisfied with the unit manager who assigned patients to nursing staff without communicating with the staff. Furthermore, no meetings were held and even the time spent on patient handovers was curtailed.

“No meetings, nothing...even the handovers were cut short. You would come and just look, and they tell you are working at the red zone...So there was basically not time for” (Participant 8).

In addition to virtual team communication, videos were made available to train staff on the use of PPE. Most participants stated that the only training they received was through videos that primarily focused on the donning and doffing of PPE.

“There were videos that were sent by our infection control sister...where she would show us how to wear PPE step by step” (Participant 8).

Critical care nurses were unfamiliar with managing COVID-19 patients, and this necessitated training. At the beginning of the pandemic, management prioritised planning and preparing CCUs for COVID-19 readiness, and training appeared to be less important at the time. Several participants disclosed that no training had been provided since the outbreak of the pandemic.

“...it was like they all stopped when COVID arrived, so no training”
(Participant 6).

A unit manager (UM) is responsible for the coordination of operational activities in a CCU and a shift leader is in charge of the shift and is responsible for overseeing the smooth flow of nursing activities. Participants valued the support provided by shift leaders despite shift leaders having to care for their own patients, as is described below.

“Yes, I was, they informed the shift leader, and she usually will maybe change the person, or she will come help out in the COVID” (Participant 7).

Some participants agreed that the unit managers provided support in the units by being physically present to assist and function as a safety net for staff.

“...so (name omitted) was always there – a safety net” (Participant 9).

Similarly, another participant mentioned that members of the management team, such as the hospital manager, visited them and inquired about their wellbeing.

“...in the beginning (name omitted), our hospital manager, he used to come around and come see how we are doing” (Participant 7).

Some participants disagreed and reported a lack of support from unit managers. This lack of support was reported to be especially evident in the COVID-19 areas where CCNs were expected to cope in spite of the prevailing staff shortages.

“...nobody that came in to actually check to see what people were doing, because we were all thrown in the deep end” (Participant 5).

This sentiment was shared by another participant.

“And it made us feel as if, you know, we weren’t important enough, we were there to do our job, but there is no support, really” (Participant 1).

Another participant agreed that there was a lack of management support and indicated that top management (hospital manager and/or nursing service manager – also called the hospital matron) was either absent or did not physically enter the COVID-19 areas.

“...the management didn’t go to the, got to the COVID ICU...they will look through the window, they never came in” (Participant 3).

In addition to the challenges mentioned above, CCNs faced other difficult conditions during the COVID-19 pandemic. These included a sense of moral distress and having to cope with many patient deaths. Debriefing is essential to deal with emotional challenges. Management provided opportunities for CCNs to debrief. Some debriefing sessions were scheduled during the peak of the pandemic while others were scheduled afterwards.

“There was a time that the social worker would come and she would come and talk to us if we’re ok” (Participant 10).

Another participant stated that despite debriefing sessions having been requested, they were not provided.

“I know some sisters asked about briefing sessions...but we never had debriefing sessions” (Participant 7).

During pandemics CCNs experience increased stress levels which may impact their mental health and ultimately weaken the resilience of the workforce. Managers should therefore support staff wellbeing during stressful times to ensure good long-term mental health.

Incentives – Incentives are important for encouraging work commitment and showing appreciation. All participants shared similar views regarding their love of nursing but acknowledged that financial incentives, recognition and better working conditions, served to express appreciation.

Some participants stated that when caring for COVID patients at the start of the pandemic they received a monetary allowance, but that this was later discontinued.

“In the beginning of COVID, we were, if we worked with a patient, we were given remuneration and then that remuneration was taken away”

(Participant 1).

The CCNs expressed a desire to be recognised for going above and beyond their duties in extremely difficult circumstances, whether through the provision of refreshments or a greeting from their managers. Some participants mentioned that they were given food as incentives.

“Giving us food, whenever, you know, time to make us feel they are there, no matter what happened, but they were really supportive” (Participant 2).

A few participants indicated that they did not receive any form of refreshments, even basics such as coffee and tea.

“There was no coffee, there was no tea” (Participant 9).

While incentives in the form of recognition appeared to be important for CCNs, this was frequently lacking.

4.3.3 Staff planning and management

Staff planning and management comprise sub-themes such as the allocation, delegation and recruitment of staff as well as policies to ensure staff and patient safety. Hospital management is responsible for providing sufficient staff who have the appropriate skills and training to care for critically ill patients. The shortage of skilled and trained CCNs during the COVID-19 pandemic proved to be a challenge. Overall, participants were unhappy with recruitment, staff allocation and delegation in the hospital.

Staff allocation and delegation – Although participants were aware of the staff shortage during the pandemic as well as financial constraints in healthcare (due to the global recession), they expressed dissatisfaction with how staff were managed at the hospitals. Participants were also dissatisfied with perceived unfair and unequal distribution of staff as well as the number of nurses allocated per shift in the CCU.

The recommended nurse-patient ratio in critical care units is 1:1 for critically ill patients and 1:2 for high care patients. Owing to a severe staff shortage during the COVID-19 pandemic, CCNs were forced to care for additional critically ill patients resulting in stress and, ultimately, burnout. In some cases, single CCNs had to nurse either two or three ventilated patients or two high care patients – a situation which was extremely stressful.

“...you have to look after 3 ventilators... and the other one 2 ventilated and the other one BIPAP – all very sick. That was very stressful – EXTREMELY stressful” (Participant 8).

One participant also mentioned that there was a perceived unequal distribution of permanent staff members per shift. Permanent staff worked the day shift while agency staff worked the night shift. The latter are unfamiliar with the CCU environment which added to CCNs' stress and workload.

“During the day we usually had enough of our own staff, but that was, I experienced a lot of that during the night, that staff come from agencies, they didn't know” (Participant 7).

Participants were also dissatisfied with the perceived unfair allocation of staff in COVID-19 and non-COVID areas. Staff members who were at high risk, such as those who were older, immune-compromised or who had co-morbidities (diabetes mellitus, asthma, hypertension, etc.) were given the option of working in COVID-19 areas.

“...in the beginning they had the choice – the people that wanted to work there they can work there, the people that don't want to work there, people a certain age don't have to work there, people with high blood pressure” (Participant 3).

However, one participant claimed that she was not given a choice despite submitting proof in the form of a doctor's letter.

"...I mean there was no such thing as being allowed to say no. I even had a Doctor's letter from my child's physician" (Participant 1).

In conclusion, it is evident that participants believe that the current staff skills mix in the CCU is inefficient. The shortage of skilled CCNs and permanent night shift staff appears to cause frustration and stress. These frustrations were exacerbated by the necessity of working with agency staff who were also unfamiliar with the unit's management of critically ill patients.

Recruitment – Participants indicated that hospitals did not recruit sufficient and/or adequately trained CCNs during the pandemic. This resulted in the use of staff with too little experience having to work in CCUs and this was outside their comfort zone. This was seen as management's means of saving money (agency staff are paid overtime and are expensive to hire) by maximising resource utilisation.

Participants revealed that during staff shortages, management recruited and reassigned staff from less busy non-COVID areas, such as wards and theatres, to work in the CCU.

"...if the wards were quiet they would get staff members from the ward"
(Participant 4).

In addition to ward staff, agency staff worked in the CCU to cover staff shortages. While participants expressed gratitude for extra nurses to reduce their workload, the nursing agency staff were unfamiliar with the unit's protocols for patient care and CCNs had to intervene when patient safety was jeopardised. This caused frustration as these staff had not received the necessary orientation to the unit and they also required assistance with patient care. This resulted in an increased workload for the already overburdened CCNs.

"...there was a lot of agency staff to work. Some of them also didn't know what is going on, but they did try to help us. Sometimes you have to carry them as well, and if you see they're not treating your patient properly then you have to intervene" (Participant 7).

Participants seemed to value the assistance of additional staff in alleviating the CCU's staff shortage to provide safe and quality patient care. There was consensus, however, that the additional staff needed to be trained and be familiar with the unit in order to perform efficiently.

Policies - Policies are used as a framework for day-to-day operations in healthcare facilities to ensure the safety of healthcare workers and patients. During the COVID-19 pandemic, healthcare institutions developed policies and protocols based on the WHO recommendations to protect CCNs and patients.

Special equipment was recommended to ensure safe intubation of patients, but the use of this equipment was not always regarded as practical.

"...they had that glass cage that we were supposed to put over patient's head but it didn't work" (Participant 6).

In addition, one participant stated that in the early stages of the pandemic, intubated patients were covered with plastic bags to protect both patients and CCNs from the coronavirus.

"...they were intubated in everything and then we would cover them with like a clear plastic over them" (Participant 5).

Hospital management modified COVID-19 protocols in accordance with the country's restriction levels but this caused confusion amongst staff as they could not always keep up with all the changes. For example, the initial standard operating procedure (SOP) recommended wearing single gloves and overshoe covers but this was later discontinued.

"Then the new SOP came out, it changed, we can only wear single gloves and they take the shoes that, I don't know what you call it, the covers over your shoes, that also did fall away" (Participant 10).

During the early stages of the COVID-19 pandemic, the WHO recommended guidelines for preserving masks and hospitals implemented procedures such as mask re-sterilization. One participant explained that due to the shortage of masks at the onset of the COVID-19 pandemic, masks were sterilised before reuse by CCNs.

“...there was a shortage of masks when COVID came. So we had to reuse our mask, put it in a brown envelope, then it goes for zapping and then it comes back” (Participant 10).

To prevent the spread of the coronavirus, participants were not permitted to use communal facilities such as the toilet, kitchen or tearoom. Moreover, the distance to the allocated facilities was impractical.

“...we weren't allowed to go in the kitchen, we weren't allowed to go into the staff toilet, weren't allowed to go into our tearoom in the ICU, we had to completely leave the unit and walk halfway down, down to the other end of the hospital” (Participant 1).

Participants reported that they were completely isolated from their co-workers and had no means of communicating with them. Initially, the WHO recommended that people in close contact with COVID-19 should isolate for 14 days; however, the quarantine period was gradually reduced to 7 days and at the time of writing, quarantine is only required if a person is symptomatic. One participant's husband was diagnosed with COVID-19 and consequently she had to spend 10 days in quarantine.

“...my husband was diagnosed with COVID...we had to stay at home as well, until all that, 10 days or something” (Participant 8).

The COVID-19 pandemic prompted hasty implementation of several policies and protocols. Many of these were not always practical and contributed to a lack of confidence in PPE as well as a sense of isolation.

4.3.4 Staff wellbeing

Staff wellbeing comprises the overall mental, physical and emotional health of staff. Exposure to work-related stress will have an impact on CCNs' physical and psychological health.

Physical health – Participants reported physical symptoms such as bladder infections and skin conditions. The reasons cited for these physical symptoms included the fact PPE was worn against the skin for long periods of time and the time it took to dress

and undress while wearing PPE resulted in CCNs not using the bathroom frequently enough.

“...because you can’t leave and to leave and to go get dressed and to get undressed and to get dressed again, so a lot of us ended up with bladder infections” (Participant 1).

Similarly, one participant reported developing a skin condition because of wearing PPE and using alcohol hand sanitisers (skin irritants).

“And now this COVID is taking away my beauty and I know my beauty lies on my skin because people always applauded me of my beautiful skin”
(Participant 8).

Some participants explained that they had to work without breaks, and this resulted in exhaustion. Several participants reported that when off duty they felt the necessity to sleep because they were exhausted and lacked energy.

“...it was like I was so tired, I didn’t have the energy, I, rather go to my bed”
(Participant 6).

CCNs were unable to sleep at night due to exhaustion and some suffered from resulting insomnia as described below.

“I couldn’t sleep at night. I really thought I got insomnia through COVID”
(Participant 7).

Critical care nurses suffered physical symptoms mostly related to stressful conditions and the extended wearing of PPE.

Psychological health - Participants stated that their psychological wellbeing has been impacted by the working conditions in the CCU. Several participants experienced a range of emotions including fear, anxiety, hopelessness and frustration related to their work in the critical care environment. Many CCNs shared the anxiety they experienced while working during the COVID-19 pandemic as a result of the prevailing staff shortages, the need to wear PPE, and the critical condition of patients. Some participants explained that the CCU was unfamiliar to them because they were either

agency nurses or had been newly hired as CCNs just prior to the onset of the pandemic.

“...so you know there is, the anxiety, it’s there” (Participant 5).

Participants providing direct care to COVID-19 patients were aware that they were more vulnerable to COVID-19 infection than the general population. All the participants stated that their greatest fear while working in COVID-19 areas was transmitting the coronavirus to their families.

“And it was a constant fear of taking COVID back to home and causing one of them to get sick or one of your family” (Participant 9).

To prevent the transmission of the virus to their families, participants undressed first before entering their homes and showered outside. The outside shower was specifically installed during the pandemic to prevent the spread of the infection.

“So many times when I get home, like you strip outside and throw everything into the washing machine and then you, my husband put up a shower outside, then I shower and then I go in and I shower warm (Participant 1).

Participants reported feeling isolated from their own families, children, grandchildren, parents and siblings. Family members wanted to avoid contact with the CCNs out of fear of contracting the virus.

“...I couldn’t see my child. Not because I didn’t want to, it’s because they didn’t want me there because they thought I’m going to make them sick” (Participant 3).

Another key aspect that emerged was a sense of hopelessness when hours of hard work and fighting for their patients did not result in a positive outcome.

“...if you did all the hard work on the patient and like you’re literally putting everything, all your knowledge, all, like you never left the patient’s bedside, and it takes one thing to go wrong and then you felt like hopeless” (Participant 4).

Critically ill COVID-19 patients have a high mortality rate, particularly those who require invasive mechanical ventilation. As a result, CCNs were exposed to more

deaths than usual during the COVID-19 pandemic. In addition, the level of stress experienced during a health crisis (such as the COVID-19 pandemic) may lead to the development of depression or Post-Traumatic Stress Disorder (PTSD) in CCNs. One participant stated that the coronavirus has disrupted lives and that she had never seen so many deaths in her entire career.

“...this germ to come and disrupt all our lives because we had one lady who was pregnant that got COVID and she died, is like two lives gone...” I never in my whole nursing career seen so many people die” (Participant 6).

Similarly, participants revealed their trauma and emotional stress as a result of the large number of patient deaths, particularly those of pregnant women and young people.

“There was like a pregnant girl that, young girl that had actually died – that was really sad...” And there was a 16-year-old girl that also got COVID, and she was very sick, but she refused oxygen...and she died, you know” (Participant 7).

Despite exposure to the large number of patient deaths, participants had no time to be sad or mourn because they had to dispose of the bodies.

“So there wasn’t enough time to actually feel sad if I should say like that because now you must be busy getting rid of this body so that you can admit” (Participant 5).

Another participant shared the same sentiment.

“...I admitted her, I nursed her, and then put her in a body bag” (Participant 1).

In contrast, CCNs were happy and felt a sense of accomplishment if the patient’s condition improved sufficiently to allow them to be transferred to the ward.

“But it was a good feeling sending a patient to the ward, knowing okay, they’re actually out of the red zone and they’re actually going to make it” (Participant 4).

Critical care nurses in COVID-19 CCUs worked under stressful conditions to save lives when it was possible to do so, and they supported families and patients when survival

became impossible. All participants agreed that they could not have survived without the love and support of their families. One participant said that on returning home she sat in her car for a few minutes before entering the house to discuss the ups and downs of her day with her husband.

“...but when I got home, at least I would sit in the car for a bit, and then I’d speak to my husband and I would let him know whatever was the highlight and the low lights” (Participant 5).

In addition to family support, some participants mentioned that they relied on their religion and mostly prayed to get through the day.

“...I’m a believer so I just prayed” (Participant 4).

Another participant indicated that she chose to sleep in the afternoons to protect herself from the emotional pain and stress of the COVID-19 deaths.

“I slept a lot during COVID, I think it was like a protective measure, because I never slept like in the afternoons” (Participant 8).

Some participants engaged in activities that they enjoyed helping them relax and avoid thinking about work.

“If I go home, watch TV, do something that I like, have a glass of wine, coffee and I go sleep and I will just go on the next day” (Participant 10).

Staff shortages and the work environment also affected the psychological health of CCNs. This manifested as sleep deficits, anxiety, emotional distress and hopelessness. The importance of family support, relaxation techniques and religion were highlighted as participants indicated their need for someone who understands their psychological needs.

4.3.5 Quality of patient care

Patients are the centre of the care continuum and have the right to safe and quality care. Quality of patient care relates to the sub-themes of delayed patient care, patient neglect and holistic care.

Delayed patient care - Critical care nurses indicated that staff shortages resulted in delayed patient care. One participant revealed that due to the influx of COVID-19 patients and a shortage of beds in CCU, staff were still in the process of completing patient admissions when the next patient was received. This delayed patient care.

“...it would be like a domino effect and then there would be a cascade. Because there would be another one. It never stopped...it was, there was always another patient that needed a bed” (Participant 9).

Another participant explained that because of the COVID-19 patient profile (rapid spread of COVID-19 globally, rapid deterioration in patients' conditions and high morbidity and mortality rates), patients required more intensive care nursing with some patients having to wait for nurses to attend to them. For example, a patient had excessive secretions and required continuous suctioning to clear the airway.

“...a lot of the patients have got so much secretions that you spend the whole night suctioning them and get rid of secretions” (Participant 1).

A shortage of CCNs resulted in patient delays due to a mismatch between patients' needs and staff availability.

Patient neglect – Participants explained that having one CCN care for 2–3 ventilated patients resulted in these patients being neglected.

“So you feel you neglect your colleagues, you neglect your patients”
(Participant 6).

Several participants expressed their dissatisfaction when they were unable to provide essential basic care in accordance with to the CCU's standard procedures.

“...we just want everything to be done according to the book. That was actually frustrating because you feel like I haven't actually done my job”
(Participant 2).

Another participant mentioned that the CCU unit was extremely busy and CCNs had to prioritise between basic nursing care activities, such as bed baths and mouth care, versus more urgent matters like the administration of antibiotics or sedatives.

“...you had to choose...now, do I wash, do I do mouth care, do I give antibiotics, do I go and get sedation...? So it was just, you know, it was just too many things you needed to do” (Participant 5).

The working conditions experienced in the CCU resulted in CCNs having to unavoidably neglect some patients because they had to prioritise which nursing activities were most urgent.

Holistic care - Critical care nurses are responsible for the holistic care of critical care patients, including the physiological, safety and belonging needs. Participants indicated that the severe staff shortage and the instability of the patients made the provision of holistic care extremely difficult. Furthermore, the necessity for CCNs to focus on the immediate nursing care and management of the patient, such as administering medication and ensuring adequate oxygenation, may have resulted in the caring values and attitudes having to be neglected or even overlooked (holistic approach).

“...you didn't give them the holistic care that they needed – you made sure their medication is given, you made sure their oxygenation is good” (Participant 4).

In contrast, one participant stated that while nursing care was the same, it had to be done differently due to the patients' instability.

“...the nursing care was, I would say the same, but it's just that, the way you're doing the nursing care you know. The patients, sometimes the patients had these BIPAP on and then you have to feed them because they can't breathe or they are short of breath...so you have to feed them one spoon and put the BIPAP on again, otherwise they desaturate” (Participant 7).

During the COVID-19 pandemic, social distancing restrictions prohibited visitors from visiting patients in healthcare facilities. Consequently, COVID-19 patients in the CCUs were often alone and, in many cases, these patients died alone.

“...patients wanted to see their families, they, they were alone” (Participant 3).

Participants mentioned that they devised a method to keep the patient and family in contact. One participant used a plastic bag over her cell phone and called the patient's family to set up a video call between the patient and his family.

"I used my phone in a little plastic bag, phoned the family and then made videos" (Participant 3).

It is evident that CCNs were unable to render holistic care due to high workloads.

4.3.6 Surviving COVID-19: unexpected outcomes

Working in a CCU is inherently stressful but the global coronavirus health crisis exacerbated stress levels throughout the nursing profession. While CCNs are also accustomed to dealing with difficulties like conflict and death, some have never seen so many patients die as during the pandemic. Despite the challenges that CCNs faced, they reported professional and personal growth.

Team spirit – As previously mentioned, amongst the findings of this study was that of conflict amongst CCNs and a lack of management support in this regard. Most participants, however, reported how supportive their colleagues were to one another.

"As our colleagues we supported each other. When we have tea, our lunch, we will talk about it and it makes us better, we make jokes, and we laugh. Like I said, that's why that was our only support us as colleagues in the unit"
(Participant 10).

Furthermore, sharing similar experiences throughout the pandemic created a bond and sense of belonging to the team.

"I think it was, everyone was scared, and everyone was feeling the same because of that, we met somehow at the same level" (Participant 2).

Fear and devastation due to the pandemic served to consolidate CCN teams, thereby enabling them to rely on one another.

Professional growth - Most of the participants stated that they gained experience during the COVID-19 pandemic. Some participants explained that they learned how to use new equipment and how to care for critically ill patients.

“Learned new equipment, I felt like, I had conquered, I didn’t know this machine before. And now, I managed to keep the wheel turning for 12 hours” (Participant 5).

One participant has been motivated to further her studies by enrolling in a post-basic qualification in nursing management.

“I actually feel proud, and I feel empowered because I’m, I am doing management as a course now” (Participant 8).

Although the COVID-19 pandemic posed numerous challenges for CCNs, participants experienced professional growth and, in addition, participants learned more about their own personal strengths and capabilities. Some participants stated that while the pandemic was difficult, they are proud that they were able to persevere in the face of adversity.

“I actually feel proud about myself. Having to go, to have gone through all that and survived” (Participant 8).

Healthcare workers are expected to always be strong and to care for patients, but during the pandemic, they realised that they, too, are human beings with feelings. One participant stated that she discovered she was allowed to feel emotions like sadness.

“I’ve learned I’m allowed to feel sad. COVID made me learnt that I’m allowed to feel sad” (Participant 9).

Many participants indicated they felt stronger professionally because of the pandemic.

New beginnings – Working during the COVID-19 pandemic was extremely challenging for all participants and all expressed relief that the pandemic had ended after one year and that normalcy had been restored.

One participant mentioned that she now feels ready to resume running because it was an activity for which she had no energy for during the pandemic.

“I feel I can go back to my old life if I can say that. I want to start running again” (Participant 6).

Wearing make-up and jewellery is part of the new beginnings for CCNs, as was stated by one participant.

“...I think Sunday I put earrings on for the first time after COVID. I think COVID is over now. I can put my jewellery on now” (Participant 3).

Participants revealed that they personally experienced and witnessed the pandemic, they survived it, and are able to continue with their lives due to their love of the nursing profession.

“I happen to be the person who can tell the story at first hand. I think also the positivity in me comes out. Because it’s something that I can attest and tell the story without telling somebody else’s story” (Participant 8).

In addition to the negative experiences (heavy workload, shortage of staff and equipment, etc.) participants also had positive experiences (patients recovering, support from co-workers, etc.). Despite the positive outcome of feeling professionally stronger in the wake of the pandemic, CCNs nonetheless experienced heightened stress and this may have an impact on their mental health. To avoid this, they require psychological support from management.

4.4 SUMMARY

This chapter reports on the findings of the study. Themes that emerged from the study include the management of human resources, staff planning and management, staff wellbeing, quality of patient care and the unexpected outcomes of surviving COVID-19. Overall, the themes and sub-themes comprehensively reflected CCNs' experiences of working in CCUs during the COVID-19 pandemic. Chapter 5 expands on the findings in relation to the literature. The chapter will also include a conclusion, limitations and recommendations of the study.

CHAPTER 5

DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

Chapter 1 comprises the background and rationale of the study, while Chapter 2 contains the literature reviewed regarding the experiences of critical care nurses (CCNs) working during the COVID-19 pandemic. Chapter 3 involves the research methodology applied in the study while the findings of the study were presented in Chapter 4. Chapter 5 includes the conclusions and recommendations based on the findings of the study.

5.2 DISCUSSION OF FINDINGS

The aim of this study was to explore the experiences of CCNs working at private hospitals in the Western Cape during the COVID-19 pandemic. The participants were registered nurses (RNs) permanently employed in critical care units (CCUs) at two private hospitals in the Western Cape. The CCNs provided direct care to patients in the CCUs during the COVID-19 pandemic. The findings relating to each objective will be discussed in the following section. These findings are linked to relevant literature.

5.2.1 Objective 1: Explore the experiences of CCNs working during the COVID-19 pandemic

Karanikola and Mpouzika (2018:45) postulate that the physical and mental wellbeing of CCNs relates to a safe work environment which, in turn, contributes to safe and quality patient care. This study investigates the extraordinary circumstances that participants were subjected during the COVID-19 pandemic, such as wearing uncomfortable PPE for long periods of time, exposure to unfamiliar equipment, a shortage of PPE, a heavy workload, isolation from colleagues working in other departments and the stress experienced due to the deaths of hundreds of patients (see Chapter 4, Section 4.3.1 to 4.3.5). These factors influenced not only the work environment but also the wellbeing of staff (physical and psychological health).

Participants in this study shared their fear of the disease and the possible consequences of working with COVID-19 patients, e.g., contracting the virus and transmitting it to their families (see Chapter 4, Section 4.3.4). Crowe, Howard, Vanderspank-Wright *et al.*, (2021:5) conducted a study in which participants reported psychological distress because of the conflict of simultaneously providing for patients' needs and maintaining one's own safety. The heavy workload and staff shortage created an unsafe environment for patients (see Chapter 4, Section 4.3.2). This was also described by Moradi *et al.*, (2021:1163).

The shortage of staff during the pandemic influenced staffing management negatively as there are insufficient CCNs – nationally and globally. Participants indicated that the current nurse to patient ratio in the CCU is 1:2 or 1:3 for ventilated patients (see Chapter 4, Section 4.3.3). Participants reported that the shortage of staff led to longer shifts, heavier workload and no leave. The longer shifts and the increased workload due to the increase in the number of critically ill patients all contributed to severe exhaustion. The staff shortages resulted in participants being unable to take leave or to rest. Similar findings in terms of excessive workloads and an inability to take leave were described in a study conducted in Iran (Moradi, Baghaei & Hosseingholipour *et al.*, 2021:1162). In this study, participants also described feelings of guilt when taking sick leave as participants felt that they were failing their colleagues in an environment where severe staff shortages were already being experienced (see Chapter 4, Section 4.3.1). Participants shared experiences of self-blaming and feelings of guilt when they contracted the virus. However, a sense of self-sacrifice was also mentioned when participants worked extra shifts when their colleagues were sick or at high risk (Eftekhar *et al.*, 2021:550-551).

Personal protective equipment was fundamental for the protection of healthcare workers during the care of COVID-19 patients. The WHO (2020:2-4) provided guidelines for appropriate and sufficient PPE, including N95 masks, gloves and aprons. The participants mentioned having difficulty finding appropriate sizes, of scrubs and gloves and this contributed to additional stress and frustration (see Chapter 4, Section 4.3.2). In addition to the difficulty of obtaining the correct sizes of scrubs and gloves, some staff did not trust the PPE – as mentioned in Chapter 4, Section 4.3.1. Some study findings revealed that CCNs did not trust the PPE due to adverse

effects of wearing it and, in some cases, shortages were reported (Moradi *et al.*, 2021:1162-1163; Tabah, Ramanan, Laupland, Buetti, Cortegiani & Montero *et al.*, 2020:72).

To mitigate the shortages of PPE, private healthcare institutions had processes to decontaminate N95 masks so that they could be reused, as was suggested by Le Roux *et al.* (2020:470). Moreover, the majority of available PPE was designed and manufactured for single- and short-term use. Participants expressed doubt in the decontamination process and consequently doubted in reliability of PPE (see Chapter 4, Section 4.3.3). This doubt increased the fear and anxiety associated with contracting the virus. According to Fernández-Castillo *et al.* (2021:7), a shortage of PPE resulted in a sense of uncertainty. In contrast, some participants in this study stated that they began to trust PPE as they did not contract the virus while working with COVID-19 patients (see Chapter 4, Section 4.3.1). Personal protective equipment was described as extremely uncomfortable and claustrophobic (Dhandapani *et al.*, 2021:136; Tabah *et al.*, 2020:72).

According to Marshall *et al.*, (2017:272), a CCU's physical space should have isolation areas to treat isolation patients. Furthermore, every bed space should be designed to ensure easy access to life-saving and supportive devices. Critical care units did not have enough isolation rooms to accommodate the increase of critical care patients during the pandemic. A worldwide shortage of CCU beds was described in studies and critical care beds had to be created (Arabi, Azoulay, Al-Dorzi *et al.*, 2021:284; Griffin, Karas, Ivascu *et al.*, 2020:1341; Michell, Joubert, Peters *et al.*, 2021:64). Participants in this study stated that the installation of glass partitioning and sliding doors by healthcare institutions created additional isolation areas (see Chapter 4, Section 4.3.1). However, participants reported that the additional space was neither practical nor safe as provision was not made for additional sluices or basins (see Chapter 4, Section 4.3.1).

Participants mentioned that separate rest room facilities were created for staff working with COVID-19 patients to prevent the spread of coronavirus 2. Critical care nurses experienced a sense of isolation due to being separated from non-COVID areas (see Chapter 4, Section 4.3.3). A study conducted by Muz & Erdoğan Yüce, (2021:1030) on the experiences of nurses caring for COVID-19 patients also found that nurses felt

isolated from the non-COVID staff. In another study, CCNs said that they felt isolated from their patients and were unable to socialise with friends (Gordon *et al.*, 4-5).

The management of COVID-19 patients at the beginning of the pandemic was tentative and uncertain. Consequently, CCNs were required to learn rapidly about the most recent developments in the management of critically ill COVID-19 patients (see Chapter 4, Section 4.3.1). Participants in this study compared the CCU to a 'war zone' during the COVID-19 pandemic (see Chapter 4, Section 4.3.1). In addition, participants described the devastation of working during the COVID-19 pandemic as a 'nightmare and a disruption' (see Chapter 4, Section 4.3.4). In another study regarding the experiences of CCNs caring for COVID-19 patients, CCNs mentioned that dealing with rapid changes in the critical care environment also created disruption e.g. adjusting to new protocols (Conz, Braga, Vasconcelos *et al.*, 2021:5-6).

Participants who worked in the COVID-19 areas relied on their colleagues for support, despite incidences of conflict (see Chapter 4, Section 4.3.1). The conflict was primarily caused by the stressful environment. Appreciation of support received from other multi-disciplinary team members – such as physiotherapists – during the pandemic was emphasised (see Chapter 4, Section 4.3.1). However, this support was not provided by the physicians, particularly when it came to providing information to family members (see Chapter 4, Section 4.3.1). Though CCNs did not receive support from physicians, they were supported by the physiotherapists (see Section 4.3.1) and their colleagues in the COVID-19 sections (see Chapter 4, Section 4.3.6). Gordon *et al.* (2021:5) highlight the value of this support from co-workers. Participants used lunch breaks to vent their feelings and said that humour helped them to cope with the emotional burden. Furthermore, participants could discuss and share patient care challenges. Owing to this, participants felt reassured as they realised, they had shared similar experiences (see Chapter 4, Section 4.3.6). According to Fernández-Castillo *et al.* (2021:6-7), the building of relationships and the consequent creation of strong teams are important.

COVID-19 restrictions prevented families from visiting the patients in healthcare institutions during the pandemic (see Chapter 4, Section 4.3.5). According to the participants, family members were justifiably concerned and relied on CCNs for information telephonically (see Chapter 4, Section 4.3.1). Studies abroad revealed that

restrictions on family visits contributed to lack of knowledge on patients' medical histories. Participants' in these studies stated that they did not have much contact with the patients' families (Andersson *et al.*, 2021:4; Bergman *et al.*, 2021:471). The time spent on the telephone providing information to family members contributed to delayed patient care and consequent frustration (see Chapter 4, Section 4.3.1). In a study conducted by Fernández-Castillo *et al.* (2021:5), it was also found that telephonic support was provided for family members by CCNs working during the COVID-19 pandemic. The authors also indicated that the long hours spent on telephonic support increased workload. Aside from the time spent making phone calls, the amount of information families required and the information the CCNs were permitted to provide caused moral distress (see Chapter 4, Section 4.3.1). In contrast to face-to-face conversations, CCNs are unable to visually identify family members or recognise voices and this can jeopardise patient confidentiality. Buys (2017:954) postulates that healthcare institutions can be held liable if confidentiality of patients is breached.

Participants in this study were faced with difficult end-of-life challenges during the pandemic. COVID-19 restrictions prevented families from visiting their loved ones and CCNs were often compelled to share devastating news and console families telephonically (see Chapter 4, Section 4.3.5). This is congruent with the findings of a study conducted by Bambi *et al.* (2020:239) that indicated that many patients had to die alone. Participants also discussed the difficulties they faced in comforting families and assisting them with final closure. Despite dealing with multiple patient deaths and providing emotional support to patients' families, CCNs also had to deal with their own emotions while attempting to cope with conditions during the COVID-19 pandemic (see Chapter 4, Section 4.3.4). These factors exacerbated the difficulties that participants faced in an already stressful work environment, and this ultimately impacted on staff wellbeing.

Several researchers have described symptoms and side-effects related to the wearing of PPE for long periods. These include breathing difficulties, headaches and skin reactions (Dhandapani *et al.*, 2021:136; Tabah *et al.*, 2020:72). Participants in this study reported similar symptoms but none experienced headaches. Heat and moisture were generated when wearing PPE for long periods of time causing excessive sweating and exhaustion (see Chapter 4, Section 4.3.1). The restrictions due to the

wearing of PPE and the lengthy donning and doffing process resulted in CCNs being unable to take regular breaks and some participants developed bladder infections (see Chapter 4, Section 4.3.1). A qualitative study of nurses' perceptions on the care needs of COVID-19 patients revealed that PPE restricted mobility and placed limitations on eating and drinking (Galehdar *et al.*, 2020:6). Physical symptoms related to PPE added to the psychological burden of CCNs.

During the pandemic, participants experienced psychological symptoms in addition to physical health symptoms. Participants' experienced severe anxiety, especially at the start of the pandemic due to the uncertainty and anxiety surrounding the pandemic (see Chapter 4, Section 4.3.3). Participants reported severe tiredness as a common symptom and this resulted in an ongoing need to sleep on their days off. In contrast, the fear of developing COVID symptoms and anxiety about patients, resulted in some developing insomnia (see Chapter 4, Section 4.3.4). Consequently, the physiological burden of the COVID-19 pandemic was reflected in several emotions such as fear and anxiety. Similarly, findings from other studies revealed that participants' physical experiences included frequent symptoms of dyspnoea, fatigue and insomnia (Chew, Lee, Tan *et al.*, 2020:e51; Yifan, Ying, Chunhong *et al.*, 2020:561).

The rapid change in condition and deterioration of patients created feelings of helplessness and hopelessness. Participants experienced the loss of control in what is usually a controlled environment. Poor patient outcomes, despite all efforts to help patients, resulted in a sense of despondency in participants (see Chapter 4, Section 4.3.4). Eftekhar *et al.*, (2021:549) also describe the hopelessness of providing futile care. Participants recognised the value of providing holistic care for critically ill patients. However, due to a shortage of critical care nurses, patient care appeared to be compromised because patient care was either delayed or nurses could not provide basic patient care. This resulted in participants feeling that they failed their profession (see Chapter 4, Section 4.3.5). The high patient mortality rate was a major source of distress described throughout the study. Participants in this study described the emotional distress associated with the deaths of very young and pregnant patients (see Chapter 4, Section 4.3.4). Thompson, Nguyen, Noble *et al.*, (2020:4-5) note that 4.7% of pregnant patients infected with COVID-19, develop critical illness and that maternal deaths occur mostly after delivery.

The continuous exposure to workplace stressors as experienced by CCNs working during the COVID-19 pandemic, may result in depression and Post-Traumatic Stress Disorder (PTSD). The participants in this study experienced several emotions related to the stressors, such as fear and anxiety (see Chapter 4, Section 4.3.4). A scoping review on the physical and mental health of healthcare workers working during the COVID-19 pandemic revealed distress, anxiety and fear (Shaukat, Mansoor & Razzak, 2020:6-8). As mentioned in Chapter 4, Section 4.3.4, despite having to deal with all the dying and dead patients, participants did not have time to debrief their patients' deaths. According to Restauri (2020:922), the COVID-19 pandemic was traumatic and may be a contributor to the development of mental illness. Similarly, Caillet *et al.*, (2020:719) found that CCNs are at risk for the developing of PTSD and depression.

In this study, participants experienced changes in their personal lifestyle because of the pandemic. The fear of transmitting the virus resulted in limited or no contact with family members. Furthermore, participants were stigmatised as they were not allowed to visit their families (see Chapter 4, Section 4.3.4). This meant that they had to sacrifice their own and their families' needs in order to care for the strangers who were their patients, and this affected their personal relationships. Participants indicated that the fear of transmitting the virus resulted in several decontamination rituals at home prior having contact with husbands or children (see Chapter 4, Section 4.3.4). Similarly, fear and anxiety related to fear of transmission and their own personal health were reported in other studies (Eftekhar Ardebili *et al.*, 2021:551; Moradi *et al.*, 2021:1164). All these emotions had an impact on the mental health of the CCNs. Critical care nurses are typically expected to unconditionally care for others (patients and their families) but during the COVID-19 pandemic, they understood the importance of caring for oneself first to ensure one's own wellbeing.

Findings from this study indicated the importance of familial and collegial support in dealing with the challenges experienced (see Chapter 4, Section 4.3.4). Participants attempted to distance themselves from their own fears by focusing on positive thoughts. Gordon *et al.* (2021:5) confirm that the implementation of short-term strategies such as distraction with other unrelated activities assisted CCNs to cope with their experiences. For example, in this study participants played with dogs, watched television, and consumed more alcohol as distraction and coping

mechanisms. Religion also assisted participants in navigating their transitions (see Chapter 4, Section 4.3.4). In Chapter 4, Section 4.3.6 participants explained that they managed their stressors by utilising their own personal and professional strengths. Giménez-Espert, Prado-Gascó and Soto-Rubio (2020:7) mention that resilience in stressful situations can be built by focusing on values, beliefs, attitudes and skills.

Participants revealed both negative and positive outcomes from working in the CCU during the pandemic (see Chapter 4, Section 4.3.6). Negative outcomes included a heavy workload, a shortage of PPE and staff as well as having to work with unfamiliar equipment. In contrast, positive outcomes included a sense of new beginnings, professional growth and team spirit. Participants gained experience in skills and the management of critically ill patients as well as the ability to adapt to an unknown and frightening environment. Consequently, many felt empowered by their growth and experiences, and this ultimately contributes to a stronger and more experienced profession (see Chapter 4, Section 4.3.6). According to Foli *et al.*, (2021:3863) post traumatic growth was described, especially as a result of support from colleagues. Emotional and physical strength strengthened in cases of the recovery of COVID-19 patients, as was also described by Guttormson, Calkins, McAndrew, Fitzgerald, Losurdo and Loonsfoot (2021:e6). Although most participants expressed gratitude when the pandemic ended, they were also pleased to have been part of such an experience (see Chapter 4, Section 4.3.6). The end of the COVID-19 pandemic also allowed participants to return to normal recreational activities such as running (see Chapter 4, Section 4.3.6).

In conclusion, it is evident that CCNs were dissatisfied with the work environment in the CCU during the pandemic. There were staff and equipment shortages, the equipment was unfamiliar to the staff, and ward staff (with no experience in critical care nursing) was reassigned to work in COVID-19 CCUs. The latter added to a heavy workload that impacted both the patients and staff. In contrast, some CCNs were satisfied working during the pandemic because they gained knowledge and skills in caring for critically ill patients.

5.2.2 Objective 2: Describe critical care nurses' experience of how the COVID-19 pandemic influenced caring for the critically ill patient

Participants recognised the importance of providing holistic care to critically ill patients. However, due to a surge in patient admissions, staff and equipment shortages and heavy workloads, patient care appeared compromised because nurses were either inexperienced or were operating unfamiliar equipment.

Critical care nurses described the nursing care they provided based on the severity of the condition of patients at various stages of the pandemic. During the early stages of the pandemic, a few patients were admitted and, although they were ill, not many required mechanical ventilation (see Chapter 4, Section 4.3.5). These patients were mostly treated with oxygen masks or non-invasive ventilation (Halaçlı, Kaya & Topeli, 2020:5870). Later, during the height of the pandemic's second surge, there was a rapid increase in the number of critically ill patients in the CCUs. The rapid increase in the number of patients resulted in delayed care as CCNs had to prioritise admissions (see Chapter 4, Section 4.3.5). The condition of many of these patients deteriorated rapidly and they required mechanical ventilation (see Chapter 4, Section 4.3.5). Several studies mentioned the rapid increase in the number of critical care patients being admitted with a consequent increase in the workload (Andersson *et al.*, 2021:3; Fernández-Castillo *et al.*, 2021:5). Furthermore, the rapid deterioration of the patients was accompanied with an increase in mortality.

Participants stated that nursing care for critically ill COVID-19 patients had to be approached differently due to the patient's instability, e.g., nursing patients in a prone position to improve oxygenation (see Chapter 4, Section 4.3.5). The different approach to nursing care and its attendant challenges is also described. These include the difficulty of nursing patients who are in a prone position and the difficulty of providing adequate hygiene for patients due to lack of water in the COVID-19 isolation rooms (Andersson *et al.*, 2021:4). According to Aiken *et al.* (2021:5), an increase in the number of patients and insufficient staff contribute to lack of care. The critical shortages of skilled CCNs resulted in CCNs caring for two to three ventilated patients thereby contributing to a heavy workload.

The perceived unfair and unequal distribution of staff on some shifts caused frustration (see Chapter 4, Section 4.3.3). This resulted in CCNs also having to care for high-care

patients on either BIPAP or high flow oxygen. Consequently, CCNs had to care for three to five patients simultaneously, of whom three were ventilated (see Chapter 4, Section 4.3.3). The high nurse-to-patient ratio of 1:3 or 1:4 contributed to an increased workload, induced physical and psychological symptoms and led to CCN's having to work longer shifts. According to Bergman *et al.* (2021:471), the higher nurse-patient ratio resulted in lack of basic care such as pressure care and mobilisation. Andersson *et al.* (2021:4) and Gordon *et al.* (2021:4) confirm that during the COVID-19 pandemic, CCNs could not always provide the necessary hygiene, and social needs were neglected as families could not visit patients. Woods (2020:72) states that the inability to render care to patients can contribute to moral distress.

Providing holistic care, includes providing for patients' physical, psychological and social needs. The study participants reported that due to staff shortages and heavy workloads they were unable to provide basic nursing care. As a result, nursing activities had to be prioritised with precedence being given to the most urgent activities such as medication administration at the expense of providing basic care (see Chapter 4, Section 4.3.5). In the studies conducted by Andersson *et al.* (2021:4) and Gordon *et al.* (2021:4), patients were referred to as an "industrial line" and nursing activities were performed to "get things done".

Critical care nurses faced the dilemma of the fear of contamination which required them to wear PPE, versus the obligation to care for their patients (Muz & Erdoğan Yüce, 2021:1030). Critical care nurses explained that wearing PPE made it difficult to care for critically ill patients. This resulted in the physical contact with patients and communication being compromised. Critical care nurses reported that due to the wearing of PPE, patients could not identify them and physical contact and communication with patients was difficult (Fernández-Castillo *et al.*, 2021:5; Muz & Erdoğan Yüce, 2021:1029). A further aspect of de-humanisation was experienced with the protective measures during high-risk procedures, such as intubation (see Chapter 4, Section 4.3.3).

As mentioned in Chapter 4, Section 4.3.5, the COVID-19 restrictions prevented families from visiting patients in the CCUs and consequently families could not make direct contact with the patients. CCNs provided compassionate care by devising methods to allow contact, e.g., video calls (Chapter 4, Section 4.3.5). A study

regarding family support mentioned the appreciation of families for the ways in which the CCNs assisted in enabling contact with patients (Klop, Nasori, Klinge, *et al.*, 2021).

In summary, it is evident that participants found patient care during the COVID-19 pandemic challenging. The rapid increase in numbers and the rapid deterioration of patients resulted in delayed patient care. In addition, the high patient-nurse ratio made the provision of holistic care difficult. COVID restrictions prevented families from visiting and they had to rely on CCNs for information and this increased the CCNs' workload.

5.2.3 Objective 3: Describe the CCNs' experience of organisational management strategies during the COVID-19 pandemic

Participants acknowledged the role that management played in the provision of PPE although occasional shortages of some items were reported (see Chapter 4, Section 4.3.2). Similar challenges were reported in some studies including the limited access to PPE and, in some cases, shortages of at least one item of PPE, such as masks (Iheduru-Anderson, 2021:11-12; Tabah *et al.*, 2020:72). Critical care nurses mentioned that the lack of quality PPE made providing safe and quality patient care difficult. Critical care nurses reported that managers were not receptive to the needs and suggestions they expressed regarding sufficient and efficient PPE (González-Gil *et al.*, 2021:5). It is the responsibility of management to provide of sufficient PPE to ensure CCNs can protect themselves from viruses transmitted by infected patients.

The role of management support in maintaining staff morale during the COVID-19 is crucial (Cadge *et al.*, 2021:6). High staff morale contributes to quality patient care and motivates staff during difficult times. The authors also mentioned unit leaders' support and protection of the participants. In this study, similar experiences were shared such as the physical presence of unit managers in COVID-19 areas and their assistance with patients. The support of middle management in the provision of staff, and liaison with families and physicians was valued (see Chapter 4, Section 4.3.2). Although some participants reported top management being supportive, most participants indicated the absence of top management (see Chapter 4, Section 4.3.2). Moreover, participants believed that management was afraid of contracting the virus and therefore avoided the COVID-19 areas (see Chapter 4, Section 4.3.2). Critical care

nurses reported inadequate leadership as no emotional support was provided. Furthermore, management was not seen near or in the COVID-19 areas (Andersson *et al.*, 2021:4; Guttormson *et al.*, 2021:e3). Transformational leadership style proves effective in CCUs. According to Jordan, Werner and Venter (2015:3), transformational leaders empower and motivate staff to achieve their goals.

It was evident in the study that the lack of management support hinged on the lack of provision of material incentives and emotional support. Food was provided in some of the institutions as a staff incentive. However, many participants reported that basic refreshments were not provided in the COVID-19 areas. COVID-19 allowances were given to staff working in the COVID-19 areas but this was of short duration. In addition, the CCNs in this study stated that while they simply sought to be acknowledged, they felt that they were not 'heard or seen' (see Chapter 4, Section 4.3.2). In some studies, critical care nurses who worked during the COVID-19 pandemic stated that they had received meaningful acknowledgement and rewards from management (Cadge *et al.*, 2021:6; Muz & Erdoğan Yüce, 2021:1032).

Critical care nurses experienced psychological distress while working under extremely difficult circumstances. Maben and Bridges (2020:2744) in their study entitled "Covid-19: Supporting nurses' psychological and mental health" emphasised the importance of psychological and mental support for nurses working in high-stress situations. While debriefing sessions were arranged, they were not always practical and/or time appropriate (see Chapter 4, Section 4.3.2). Psychological support in the form of debriefing is important as the incidence of depression and PTSD increase with occupational stressors (Sarcoglu *et al.*, 2020:613; Shaukaut *et al.*, 2020:6).

The shortage of sufficient and adequately trained or experienced CCNs as well as the extent of the influx of patients resulted in challenges in providing sufficient competent staff in the CCUs (Andersson *et al.*, 2021:3; Mhawish & Rasheed, 2021:3). Severe staff shortages resulted in an imbalance between workload and staff numbers. In this study, staff shortages were also due to staff either being ill or being in isolation due to contact with an infected person (see Chapter 4, Section 4.3.2). Furthermore, regular agency CCNs worked in other COVID-19 facilities. The recommended nurse-patient ratio for critically ill patients (ventilated and inotropes) is 1:1 (Chowdhury & Chakraborty, 2017:2633; Falk & Wallin, 2016:78-79; Marshall *et al.*, 2017:275). The

nurse-patient ratio in this study was mostly 1:2 or 1:3 caring for critically ill patients. These staff shortages and consequently nurse-patient ratios of 1:2 were also reported in Spain (Fernández-Castillo *et al.*, 2021:6). In fact, some participants in this study reported that during certain shifts the nurse-patient ratio with critically ill patients was 1:4 due to severe shortage of skilled staff (see Chapter 4, Section 4.3.3).

Perceived unfair allocation of available staff was reported between COVID areas and non-COVID areas and many participants worked largely in the COVID areas. While it was mentioned that high-risk staff members e.g., immune-compromised or diabetic, were accommodated, this was not the general experience. Furthermore, there was a perceived uneven distribution of permanent staff on day and night duties. The rationale and motivation of unit managers for doing so were questioned (see Chapter 4, Section 4.3.3).

Management recruited nursing staff from wards and other non-COVID areas, such as theatre recovery, to assist with the staff shortages in the CCUs. Most of these ward and theatre staff were unfamiliar with the CCU environment, necessitating CCN supervision and assistance with patients (see Chapter 4, Section 4.3.3). This resulted in critical care patients not receiving the required care (Bergman *et al.*, 2021:470). The newly recruited staff received a crash course regarding the CCU environment and certain items of equipment. However, this minimal training could not transform unexperienced nurses in skilled CCNs in a short period of time. Vindola-Padros *et al.*, (2021:4) also report that redeployed staff was not adequately trained. Consequently, participants in this study experienced a dual responsibility – supervising inexperienced staff and taking care of critically ill patients.

Critical care nurses expressed the need for supervision by shift leaders. The CCNs appreciated the extra hands because they could assist with basic nursing care. However, additional members of staff did not necessarily contribute to quality care as they were unable to provide the necessary specialised care (see Chapter 4, Section 4.3.3). Minimum standards of critical care e.g., mouth care, could not be maintained due to shortages of skilled staff (Bergman *et al.*, 2021:470). Furthermore, trained CCNs experienced anxiety during supervision of non-trained staff, as the novice staff members could not independently provide care for ventilated patients (Montgomery *et al.*, 2021:4). Cadge *et al.*, (2021:5) described the importance of nurse leadership and

the sharing of information. Participants in this study stated that they received sufficient information from their leaders. In contrast, a study conducted by Crave *et al.*, (2021:4) described an overload of information, especially regarding frequent and rapid policy changes. Participants in this study explained the communication strategies implemented by management, such as text messages and memos. However, not all participants regarded these communication methods as sufficient as patient handovers were short and no meetings were held (see Chapter 4, Section 4.3.2).

Participants mentioned that specific guidelines regarding required PPE were introduced at the beginning of the pandemic. The CCNs received training in the donning and doffing sequence of the PPE (see Chapter 4, Section 4.3.2). During the pandemic, the guidelines and protocols regarding PPE changed, e.g., caps, double-gloving and overshoes (see Chapter 4, Section 4.3.3). In other studies, participants also reported that changes in guidelines resulted in confusion (Eftekhari *et al.*, 2021:549; Gordon *et al.*, 2021:6). Visitors' policies were adjusted to comply with COVID-19 restrictions. Consequently, families could not visit the healthcare institutions. The findings of Bethel *et al.* (2022:5) corroborate these statements.

Finally, CCNs shared their perspectives on management's role during the COVID-19 pandemic. Although resources such as PPE were provided, shortages were reported and frequent changes in protocols occurred. Perceived unfair allocation and distribution of staff was also reported. The need for debriefing was affirmed and while opportunities were created, they were deemed insufficient. The lack of support from top management was evident and they were described as 'not visible'. In contrast, some participants highlighted the importance of support from UMs and shift leaders.

5.3 LIMITATIONS OF THE STUDY

The study was conducted in two private hospitals of a private hospital group. Consequently, the study will only reflect the experiences of CCNs working in these two hospitals. Furthermore, CCNs working in the public healthcare institutions may have different views of the topic under study. The study also reflects RNs experiences rather than other categories of nursing staff, such as enrolled nurses, working in the CCU during the COVID-19 pandemic.

5.4 RECOMMENDATIONS

The following recommendations are made based on the objectives and data derived from the study. These recommendations should assist to better equip CCNs to provide care during a pandemic or similar disaster situations as well as assist management to create a safe work environment for both patients and staff. Furthermore, the recommendations may improve psychological support during disaster situations.

5.4.1 Healthy practice work environment

According to the South African Nursing Council's Nurses Rights (SANC, 2022:2), nurses have the right to a safe and healthy work environment to ensure that quality care is rendered. According to Karanikola and Mpouzika (2018:45), a healthy environment is achieved by thorough communication, appropriate staffing and acknowledgement of staff efforts.

Leadership support – Managers must also be leaders and the need for good leaders applies to critical care units as much as to any other clinical facility. A leadership style determines how leaders implement plans and strategies to achieve specific goals while considering the expectations of the organisation and stakeholders as well as the needs of staff. Moreover, appropriate leadership styles and support will motivate and influence staff to achieve set goals. Motivating staff during difficult circumstances is crucial to enhance teamwork and ensure quality patient care outcomes. A transformational leadership style is suggested to motivate staff and subsequently contribute to change management (Jordan, Werner & Venter, 2015:3).

Maben and Bridges (2020:2744) recommend that during times of crisis, such as pandemics, management should pay staff morale visits to ensure their visibility and approachability. Furthermore, it is also suggested that weekly review meetings are held with CCNs to discuss problems and challenges. These meetings serve to create a platform to ensure that strategies are in place for improvement in the work environment. Maben and Bridges (2020:2744) also suggest the sharing of successes, such as patient recoveries, to ensure all team members feel valued for their respective contributions.

Recruitment – CCNs in this study expressed appreciation for the assistance they received from staff recruited from non-CCU areas. Although these staff members did

receive some form of introduction to CCU practice, it was insufficient for them to independently provide care for critically ill patients. A systemic review regarding training and redeployment of healthcare workers to CCUs during COVID-19 has shown the advantages of sound training for recruited staff. Recruited staff can assist with daily activities such as providing basic care (Vera San Juan, Clark, Camilleri *et al.*, 2022:2).

Planning regarding recruitment of staff should focus on minimising training by redeploying staff based on their skills and previous knowledge. It is suggested that management recruits retired CCNs or nurses from similar environments, such as theatre staff, as these staff members will be familiar with CCU equipment and be accustomed to working in stressful environments (Juan *et al.*, 2022:9).

Retaining staff can be ensured by improving work conditions, supportive supervision and provision of incentives (Baljoon, Banjar & Banakhar, 2018:6-8). Critical care nurses typically work 12-hour shifts but during the COVID-19 pandemic, these shifts were extremely long and exhausting. For staff retention, Poortaghi *et al.*, (2021:5) advocate for more flexible shifts, shorter working hours and a fair allocation of staff.

Non-financial incentives – Although financial incentives such as allowances and performance bonuses are important motivational factors, non-financial incentives are equally important. Non-financial incentives include recognition, career advancement and the acquisition of new skills through training (Agbenyegah, 2019:123-124). The recognition for role and work performance is supported by Karanikola and Mpouzika (2018:45). It is also recommended that fully equipped rest rooms be provided as well as refreshments such as coffee, tea and sandwiches. Providing for basic needs will contribute to nurses feeling valued, especially during disaster situations (Muz & Erdoğan Yüce, 2021:1033).

Financial incentives – In this study, critical care nurses revealed that the initial monetary COVID allowance at the beginning of the pandemic motivated them to continue working in CCU despite the difficult circumstances. However, it was perceived negatively when it was no longer provided. A scoping review regarding the role of financial incentives emphasised the role of financial incentives as a motivational factor (Baljoon, Banjar & Banakhar, 2018:7). Management should consider providing

temporary work allowances and special vacation to boost staff morale (Poortaghi, Shahmari & Ghobadi, 2021:5).

Equipment – Participants revealed that there were shortages of PPE and they were expected to operate unfamiliar equipment, e.g. CVVHD-machines (Andersson *et al.*, 2021:3). It is essential that CCNs are adequately trained to work with the equipment to ensure that safe patient care is provided. Critical care nurses should also be able to troubleshoot or identify any equipment malfunctions. The Occupational Health and Safety Act (Act No. 85, 1993:15) instructs organisations to ensure that employees are working in safe environments. Organisations must also ensure that sufficient and appropriate PPE is always available for the prevention and control of infection in the CCU. Furthermore, regular maintenance and testing must be encouraged to ensure equipment is in good working order (Arabi, Murthy & Webb, 2020:287; Griffin *et al.*, 2020:1338).

5.4.2 Staff development

Critical care nurses were not familiar with the management of COVID-19 patients, and this revealed a lack of training. Furthermore, newly appointed and hired staff from non-COVID areas were unfamiliar with the CCUs.

Orientation – Staff reassigned from areas other than COVID-19 facilities were unfamiliar with CCU operations. It is therefore important that these staff members receive sufficient orientation to orientate and introduce them to CCU staff, to communicate the unit's protocols for patient care, and to assign a senior CCN to supervise them (Vera San Juan *et al.*, 2022:2). Finally, it is recommended that learning needs be identified and that a more comprehensive training programme be developed to meet these needs.

In-service training – Critical care nurses are responsible for updating their skills and knowledge as well as keeping abreast with the latest technology for continuous professional development. Consequently, it is important for management to plan in-service training that is focused on achieving core skills and reflects the needs of both the CCN and the CCU. Early strategic responses in a COVID-designated hospital in South Africa included training on the donning and doffing of PPE and performing nasopharyngeal swabs. Electronic and social media were used as platforms to deliver

these training sessions. Hands-on training was conducted and continuous support was provided by assigned infection control practitioners (Parker, Karamchand, Schrueder *et al.*, 2020:2). Similar strategies can be applied to communicate changes and training on management of patients during disaster situations. Furthermore, during pandemics simulation scenarios such as resuscitation and transport of critically ill patients can be arranged to meet learning needs. Strategies such as simulation of aerosol-generating procedures with appropriate PPE were implemented in Singapore (Goh, Wong, Tien *et al.*, 2020:5). Recruited staff (ward, theatre) and CCNs can continuously be assessed on further training needs through in-service training sessions and follow-ups (Vera San Juan *et al.*, 2022:8).

Mentoring – In response to critical shortage of CCNs, mentoring programmes are an important recruitment, retainment and development strategy. Mentoring is important to introduce new policies and to assist in the improvement of staff performance (Feyissa, Balabanova & Woldie, 2019:1000-1001). Mentorship can be facilitated with a senior CCN or experienced peer. This allows for inexperienced staff to be accompanied and mentored at the bedside. Institutions can introduce mentorship programmes which can be especially helpful during disaster situations. This will create a work environment in which nurses with experience of working during pandemics or disaster situations can act as mentors (Muz & Erdoğan Yüce, 2021:1032).

5.4.3 Policies

Several changes in protocols and policies were experienced during the pandemic. It is vital that managers provide clear, rational, and honest communication and training regarding changes in infection control precautions, especially in the early stages of a pandemic.

To prepare for pandemics – Organisations must ensure that disaster plans are in place to prepare for future pandemic situations. Such plans should include the provision of sufficient workforce, supplies and equipment. Proper infrastructure to provide more isolation areas is essential to accommodate high numbers of infected patients. Furthermore, sufficient in-service training and communication regarding changes is required to ensure all healthcare providers are up-to-date with the latest protocols on the management of patients (Adelaja, Sayma, Walton *et al.*, 2020; Arabi *et al.*, 2020:286-288:165-168).

Risk management – Risk management in healthcare is essential to mitigate risk to patients and staff. Management must ensure triage protocols are in place and followed to ensure the identification of infected patients. Furthermore, introduction of infection control protocols must be implemented to mitigate the risks of transmission of infection between patients and healthcare workers (Arabi, Phua, Koh *et al.*, 2016:834; Goh *et al.*, 2020:5). The increased demand for critical care beds added to the risk for caring of critical care patients due to shortage of skilled CCNs. The Critical Care Society of South Africa introduced a triage protocol to triage critically ill patients (Gopalan, Joubert, Paruk *et al.*, 2020:1-13). The protocol was necessary as the demand for critical care beds and critical care resources was higher than what could be supplied.

5.4.4 Quality assurance

Quality assurance refers to the standards required to ensure that quality care is provided (Panneerselvam, 2017:234). Staff shortages and increased workloads resulted in delayed patient care. Consequently, patient safety was compromised and this was evidenced by increased incidences of medication errors, pressure injuries, etc. (Griffiths, *et al.*, 2018:1481-1482). Staff shortages may result in missed care, e.g., providing pressure care (Aiken *et al.*, 2012:5; Griffiths *et al.*, 2018:1481-1482). Quality indicators in the private healthcare institutions focus on nursing care, incidence of pressure injuries, falls, hospital-acquired infections and medication errors. These quality indicators are in accordance with accepted quality standards for healthcare establishments in South Africa (Ranhod, 2017). Consequently, re-emphasising company SOPs and protocols to prevent and adverse events are advocated. A paper discussing the workforce management and patient outcomes during the COVID-19 pandemic focused on sufficient and trained critical care staff to provide quality of care. The authors also suggested monitoring of the effect of point of care e.g. mortality, especially during situations of changed nurse-patient ratios (Wynne, Davidson, Duffield *et al.*, 2021).

Staffing – Critical shortages of CCNs resulted in nurse-patient ratios of 1:3 critically ill patients. It is recommended that nursing management should employ the team approach during times of critical staff shortage. Mhawish and Rasheed (2021:369-373) recommend the team approach of one experienced CCN overseeing three recruited staff while every four experienced CCNs are overseen by a trained CCN.

Recruited staff from non-COVID departments will be responsible for the provision of basic needs of critically ill patients. Consequently, experienced or trained CCNs will be able to care for more critically ill patients, instead of the standard nurse-patient ratio of 1:1 or 1:2.

5.4.5 Emotional support during a pandemic

According to Maben and Bridges (2020:2744), it is important to support CCNs psychologically and mentally to ensure immediate and long-term wellbeing. However, it is essential to adapt support throughout pandemic or disaster situations as psychological needs might change through the various stages. The following psychological support is recommended:

Address own physical and psychological needs – Encourage CCNs to look after their own physical wellbeing and to meet their own basic needs (eat, drink and rest). Management should consider ‘breakaway’ rooms for CCNs to rest and where management can also make staff morale visits. Management must ensure the availability of counsellors, however, CCNs should not be forced to visit counsellors because timing is also important (Maben & Bridges, 2020:2744). Critical care nurses should be encouraged to make use of the staff wellbeing programme, in person or telephonically.

Peer or team support – During a pandemic, workers under stress may benefit from peer support which could provide a reliable source of collegial assistance which could increase resilience. Maben and Bridges (2020:2744) recommend the application of calming strategies during breaks such as mindfulness or meditation in break rooms as well as calming music. Harris (2020) FACE COVID mnemonic is also introduced to refocus on activities at hand. Regular staff huddles (10–15 minutes) are also suggested to check in on the wellbeing of staff. Huddles can be done during handovers, breaks or after shifts. A ‘buddy’ system per shift can be introduced to encourage team members to check in on each other. The private healthcare institutions make use of a ‘buddy system’ to allocate a new staff member to an experienced CCN to introduce to new policies and routine.

Family support – Visitor restrictions during the COVID-19 pandemic complicated communication with family members. Moreover, communication was difficult to

maintain between the treating physician and family. Consequently, the CCNs were contacted regarding the condition of patients, and this added to CCNs' workload. Hospitals in the Netherlands introduced 'Family Support Teams' (Klop, Nasori, Klinge *et al.*, 2021:3-7). A similar approach is recommended during possible future pandemic situations. A family support team consists of non-critical care medical specialists from different specialties such as surgeons and pediatricians. These teams would contact families at a specific time daily to provide updates. However, it is advised that the treating physician should contact the families at least once a week. Introduction of family support teams may assist in decreasing the workload of CCNs.

5.4.6 Future research

The following areas for future research are proposed:

- Qualitative research exploring the experiences of nurse leaders working during the COVID-19 pandemic.
- Quantitative research to study the psychological impact of the COVID-19 pandemic on CCNs.
- Qualitative research exploring the experiences of patients who survived COVID-19 in the critical care unit.

5.5 DISSEMINATION

The study will be available on the website of the University of Stellenbosch. The study will also be distributed to the ethics committee of the healthcare company. The participating hospitals will also be provided with a copy of the study. Any articles which may derive from the study will be published in peer review journals. Moreover, the findings will also be presented at relevant academic seminars.

5.6 CONCLUSION

The purpose of the study was to explore the experiences of CCNs working in CCUs during the COVID-19 pandemic in two private hospitals in the Western Cape. A qualitative research methodology was applied to ensure that rich in-depth data was obtained. Six themes and 17 sub-themes emerged from the data through thematic data analysis. Findings from the study assisted in describing the experiences of critical care nurses working in CCUs during the COVID-19 pandemic. The findings also described the care of the COVID-19 critical care patient and the management

strategies implemented. Recommendations for nursing practice and management of institutions have been provided. These recommendations could serve to improve strategies and support during future pandemics or similar disaster situations.

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APPENDICES

APPENDIX 1: ETHICAL APPROVAL FROM STELLENBOSCH UNIVERSITY



Approval Notice

New Application

31/05/2022

Project ID :24834

HREC Reference No: S2202004_COVID-19

Project Title: The experiences of critical care nurses working in the private sector, in the Western Cape, during the COVID-19 pandemic

Dear Miss ME Volgraff

The New Application received on 03/05/2022 was reviewed and approved by members of Health Research Ethics Committee via expedited review procedures on 31/05/2022.

Please note the following information about your approved research protocol:

Approval Date: 31 May 2022

Expiry Date: 30 May 2023

Please remember to use your Project ID 24834 and Ethics Reference Number S2202004_COVID-19 on any documents or correspondence with the HREC concerning your research protocol.

Please note that the HREC has the prerogative and authority to ask further questions, seek additional information, require further modifications, or monitor the conduct of your research and the consent process.

After Ethical Review

Translation of the informed consent document(s) to the language(s) applicable to your study participants should now be submitted to the HREC.

Please note you can submit your progress report through the online ethics application process, available at: Link Application Form Direct Link and the application should be submitted to the HREC before the year has expired. Please see [Forms and Instructions](https://www.sun.ac.za/healthresearchethics) on our HREC website (www.sun.ac.za/healthresearchethics) for guidance on how to submit a progress report.

The HREC will then consider the continuation of the project for a further year (if necessary). Annually a number of projects may be selected randomly for an external audit.

Please note that for studies involving the use of questionnaires, the final copy should be uploaded on Infonetics.

Provincial and City of Cape Town Approval

Please note that for research at a primary or secondary healthcare facility, permission must still be obtained from the relevant authorities (Western Cape Department of Health and/or City Health) to conduct the research as stated in the protocol. Please consult the Western Cape Government website for access to the online Health Research Approval Process, see: <https://www.westerncape.gov.za/general-education/health-research-approval-process>. Research that will be conducted at any tertiary academic institution requires approval from the relevant hospital manager. Ethics approval is required BEFORE approval can be obtained from these health authorities.

We wish you the best as you conduct your research.

For standard HREC forms and instructions, please visit [Forms and Instructions](https://www.sun.ac.za/healthresearchethics) on our HREC website <https://www.sun.ac.za/healthresearchethics>

If you have any questions or need further assistance, please contact the HREC office at 021 938 9677.

Yours sincerely,

Melody Shana
Coordinator: Health Research Ethics Committee 1

National Health Research Ethics Council (NHREC) Registration Number:

REC-130408-012 (NHREC1)+REC-230208-010 (NHREC2)

Federal Wide Assurance Number: 00001373
Office of Human Research Protections (OHRP) Institutional Review Board (IRB) Number:
IR00005240 (IRB01)-IR00005239 (IRB02)

The Health Research Ethics Committee (HREC) complies with the SA National Health Act No. 61 of 2003 as it pertains to health research. The HREC abides by the ethical norms and principles for research, established by the [World Medical Association \(2013\), Declaration of Helsinki: Ethical Principles for Medical Research Involving Human Subjects](#); the South African Department of Health (2008), [Guidelines for Good Practice in the Conduct of Clinical Trials with Human Participants in South Africa \(2nd edition\)](#); as well as the Department of Health (2015), [Ethics in Health Research: Principles, Processes and Structures \(2nd edition\)](#).

The Health Research Ethics Committee reviews research involving human subjects conducted or supported by the Department of Health and Human Services, or other federal departments or agencies that apply the Federal Policy for the Protection of Human Subjects to such research (United States Code of Federal Regulations Title 45 Part 46); and/or clinical investigations regulated by the Food and Drug Administration (FDA) of the Department of Health and Human Services.

APPENDIX 2: PERMISSION OBTAINED FROM INSTITUTIONS

RESEARCH OPERATIONS COMMITTEE FINAL APPROVAL OF RESEARCH

Approval number: UNIV-2022-0046

Ms Tharesia Vollgraaff

E mail: [REDACTED]

Dear Ms Vollgraaff

RE: The EXPERIENCES OF CRITICAL CARE NURSES WORKING IN THE PRIVATE SECTOR, IN THE WESTERN CAPE, DURING THE COVID-19 PANDEMIC

The above-mentioned research was reviewed by the Research Operations Committee's delegated members and it is with pleasure that we inform you that your application to conduct this research at Private Hospitals, has been approved, subject to the following:

- i) Research may now commence with this FINAL APPROVAL from the Committee.
- ii) All information regarding the Company will be treated as legally privileged and confidential.
- iii) The Company's name will not be mentioned without written consent from the Committee.
- iv) All legal requirements with regards to participants' rights and confidentiality will be complied with.
- v) All data extracted may only be used in an anonymised, aggregated format and for the purposes of this specific study as specified in the proposal. The data may under no circumstances be used for any other purpose whatsoever.
- vi) The Company must be furnished with a STATUS REPORT on the progress of the study at least annually on 30th September irrespective of the date of approval from the Committee as well as a FINAL REPORT with reference to intention to publish and probable journals for publication, on completion of the study.
- vii) A copy of the research report will be provided to the Committee once it is finally approved by the relevant primary party or tertiary institution, or once complete or if discontinued for any reason whatsoever prior to the expected completion date.
- viii) The Company has the right to implement any recommendations from the research.




- ix) The Company reserves the right to withdraw the approval for research at any time during the process, should the research prove to be detrimental to the subjects/ Company or should the researcher not comply with the conditions of approval.
- x) APPROVAL IS VALID FOR A PERIOD OF 36 MONTHS FROM DATE OF THIS LETTER OR COMPLETION OR DISCONTINUATION OF THE STUDY, WHICHEVER IS THE FIRST.

We wish you success in your research.

Yours faithfully,

 3/4/22
Prof Diah du Plessis
Full member: Research Operations Committee & Medical Practitioner evaluating research applications as per Management and Governance Policy


Dr Shannon Nell
Chairperson: Research Operations Committee
Date: 11/7/2022

This letter has been anonymised to ensure confidentiality in the research report. The original letter is available with author of research

APPENDIX 3: PARTICIPANT INFORMATION LEAFLET AND DECLARATION OF CONSENT BY PARTICIPANT AND INVESTIGATOR

PARTICIPANT INFORMATION LEAFLET AND CONSENT FORM

TITLE OF RESEARCH PROJECT:	
The experiences of critical care nurses working in the private sector, in the Western Cape, during the Covid-19 pandemic.	
DETAILS OF PRINCIPAL INVESTIGATOR (PI):	
Title, first name, surname: Miss. Tharesia Vollgraaff	Ethics reference number: S22/02/004_COVID-19
Full postal address: [REDACTED] [REDACTED] [REDACTED]	PI Contact number: [REDACTED]

Dear Participant

My name is Tharesia Vollgraaff, and I am a student in the Master of Nursing programme at the University of Stellenbosch.

I would like to invite you to partake in a research project aiming to explore the experiences of registered nurses in the private sector during the COVID-19 pandemic.

Please take some time to read the information presented here, which will explain the details of this project and feel free to contact me if you require more information regarding the project. Also, your participation is **entirely voluntary**, and you are free to decline to participate. In other words, you may choose to take part, or you may choose not to take part. Refusal to participate will not affect you negatively in any way. You are also free to withdraw from the study at any point, even if you do agree to take part initially.

Introduction and purpose

The purpose of this study is to explore the experiences of critical care nurses working with COVID-19 patients during the pandemic at your healthcare institution. Registered nurses working in the critical care unit for one month and more during the COVID-19 pandemic will be invited to participate.

You were selected to participate as you fit the sample criteria, as you have been working with COVID-19 patients during the pandemic. Information gained from this study can benefit critical nurses by better equipping them for similar disaster situations.

Risks

Minimal to no physical risks are anticipated, however, sharing of some traumatic experiences might pose some emotional risk. If you experience any emotional discomfort during the study, emotional support or counselling will be arranged.

Procedure

Individual participants will be interviewed by the researcher and an independent fieldworker. The estimated time for the interviews is 30 minutes to 45 minutes. Interviews will be audio recorded. Findings from this study will be shared with hospital management of healthcare institutions.

All the information obtained during the interviews will be kept private and confidential. Only the researcher, supervisor and fieldworker will have access to the information. The hospital and the participant's names will be kept anonymous during report writing, by using code names.

COVID Protocol

COVID-19 guidelines will be followed prior and during the interviews to ensure the risk of exposure is limited. You will therefore be screened for any symptoms prior entering of the venue, masks are compulsory during the interview and hand hygiene must be performed prior, during and after the interviews. Social distancing will also be ensured by ensuring chairs are placed at least 2 metres apart.

Cost

There will be no cost involved in this study and you will receive no payment. Refreshments will be served prior the interviews.

Ethical approval

This study was approved by the Health Research Ethics Committee at Stellenbosch University and Netcare. The study will be conducted according to ethical guidelines and principles, including the international Declaration of Helsinki.

Contact

You can contact Miss Tharesia Vollgraaff at [REDACTED] you have any further queries regarding the study. You are also welcome to contact the Health Research Ethics Committee at 021 938 9677/9819 if you have any concerns or complaints which was not addressed by the researcher.

You will receive a copy of this information and consent form for safe keeping. If you understand the purpose of this study and are willing to participate, please sign the attached declaration form.

Kind Regards.

Miss Tharesia Vollgraaff

Principal Researcher

Declaration by Researcher

The information was explained, and questions were answered. I am confident that the participants understand the purpose, benefits and risk of this study.

Signed at (*place*) on (*date*) 2022.

.....
Signature of Investigator

.....
Signature of Witness

Declaration by participant

By signing below, I agree to take part in a research study entitled: **The experiences of critical care nurses working in the private sector during the Covid-19 pandemic.**

I declare that:

- I have read this information and consent form, or it was read to me, and it is written in a language in which I am fluent and with which I am comfortable.
- I have had a chance to ask questions and I am satisfied that all my questions have been answered adequately
- I understand that taking part in this study is **voluntary**, and I have not been forced to partake
- I may choose to leave the study at any time, and I will not be affected negatively.

Signed at (*place*) on (*date*) 2022.

.....
Signature of Participant

.....
Signature of Witness

APPENDIX 4: INTERVIEW GUIDE

SEMI-STRUCTURED INTERVIEW GUIDE

Place:

Date:

Interviewer:

Thank you for participating in this research. We want you to share your experiences working in the critical care unit during the COVID-19 pandemic.

Section A

DEMOGRAPHIC DATA			
MALE	FEMALE	AGE:	DAY SHIFT/NIGHT SHIFT (circle)
NURSING QUALIFICATIONS (please tick):			
Undergraduate Diploma	<input type="checkbox"/>		
Undergraduate Degree	<input type="checkbox"/>		
Postgraduate Diploma	<input type="checkbox"/>		
Master's Degree	<input type="checkbox"/>		
YEARS IN SERVICE AS REGISTERED NURSE:			
TIME IN SERVICE AS REGISTERED NURSE AT CURRENT HOSPITAL:			

Section B

Interview Questions

1. Tell me about your experiences working in the critical care unit during the COVID-19 pandemic.

Probing words: workload, lack of resources, staff shortage, availability of PPE.

2. Tell me about your experiences providing patient care during the COVID-19 pandemic.

Probing words: incidents, complaints, communication, family, death

3. Tell me about the influence that the COVID-19 pandemic had on you.

Probing words: fear, sleep disturbances, infection, fatigue, headaches, skin damage, effects on family

4. Can you tell me about the management strategies that was implemented during the COVID-19 pandemic?

Probing words: staffing, support, training

APPENDIX 5: CONFIDENTIALITY AGREEMENT WITH DATA TRANSCRIBER

CONFIDENTIALITY AGREEMENT FOR TRANSCRIPTION SERVICES
Research Study Title:
The experiences of critical care nurses working in the private sector, in the Western Cape, during the COVID-19 pandemic

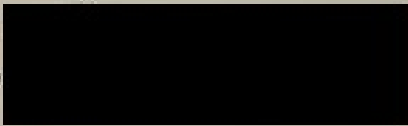
As a transcriber of this project, I understand that I will be listening to audio/video recordings of private and confidential interviews. The information relayed in these audio/video recordings has been willingly revealed by participants, who requested strict confidentiality. I understand that I have an important responsibility of honouring this non-disclosure agreement. I agree not to discuss or share any information found in the audio/video recordings with any third parties except the research team providing the audio/video recordings. Violating this agreement or any of the terms set below will be considered breach of contract and can lead to legal action being taken against me. I am confirming that I will strictly adhere to the agreement in full.

I, Julia Martinelli, transcriptionist, agree to maintain full confidentiality of all research data received from the research team related to this research study.

1. I will hold in strictest confidence the identity of any individual that may be revealed during the transcription of interviews or in any associated documents.
2. I will hold in strictest confidence the contents of the recordings and any associated documents.
3. I will not make copies of any audio-recordings, video-recordings, or other research data, unless specifically requested to do so by the researcher.
4. I will not discuss the research data with any third parties without the research team's consent.
5. I will not provide the research data to any third parties without the research team's consent.
6. I will transcribe the audio/video recordings in private, and I will store all study-related data in a safe, secure location as long as they are in my possession. All video and audio recordings will be stored in an encrypted format.

All data provided or created for purposes of this agreement, including any back-up records, will be returned to the research team and/or permanently deleted. When I have received confirmation that the transcription work I performed has been satisfactorily completed, any of the research data that remains with me will be returned to the research team or destroyed, pursuant to the instructions of the research team.

Transcriber's name (printed)
Julia Martinelli

Transcriber's signature 

Date 26/10/2022

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APPENDIX 6: EXTRACT OF TRANSCRIBED INTERVIEW (PARTICIPANT 5)

- R Good evening and thank you very much for participating in this study.
- I It's a pleasure.
- R I just want to just confirm you have signed a consent now that you participating voluntary, but I just need you to confirm also for the recording that we can continue with this interview?
- I Yes, we can.
- R And that we can also continue with the recordings of that?
- I Yes that's true.
- R Just something else also, I will not refer to you by name during this whole interview. And that just to make sure that we keep this anonymous.
- I Okay.
- R And everything else, I will also not refer to the hospital in this interview. So this is, everything is anonymous. So that's just a mature that we protect your confidentiality with regards to that.
- I Okay alright.
- R And then at any time, as I've mentioned, if you feel you want to stop, we can stop the interview. So, if you, if you feel you that want to continue.
- I Okay.
- R Alright, so I know COVID has been not done and dusted for a while. But I want you to tell me a little bit about your experiences working during the COVID pandemic in the, in the critical care unit. If you maybe can think of things, if you can think of things like, how was the workload? How was resources, anything like that?
- I Shoo there is a lot to talk about, when it comes to COVID ...[laughing]...
- R You can just talk.

I So, initially, it was unknown, you know, it was unknown, the fact that we had to learn, you know, it was as if we've never worn PPE before, you know, so it was the drills of putting in the PPE, and then just that made it even more scary, you know? And then the unknown, you know, the masks and the aprons does it actually protect us, does it not protect us. Does it stay on the skin, does it not stay on the skin, so then that comes in, you know, the realization that is not just us, me, and then it's my people at home, you know. And then we got over the PPE, we got over, you know, the big fears. And when it came in now that there was, because initially, it was one patient, two patients, three patients, and then they were not as sick, you know, so it was just nasal cannula, high flow. And then we moved on from that, then there was half a unit of patients, then it is now the red zone. And then it also put on PPE like this, put on, no, but you mustn't do that, then you must do this. So then it, all that is happening so fast. And you come on shift you do your two days, you go home, and then you come back and everything is different, you know, you left three patients, you come back and then there's now seven, or the three you left all of them are on ventilators and they are not doing so well. And then we moved on from that, then it was, then the equipment because I mean, high flows were once in a while, then you get a patient that needed to go on high flows. Once in a while, then there is a patient or two patients in ICU on ventilators. But now from nowhere everybody, most of the patients with COVID are on ventilators. And we still don't know, you know, should we still suction as regularly as we should? Should we still do mouth care as regularly as we should, should we, how do we handle these patients. And I remember the first patients had to be covered with a plastic, you know, with like a clear plastic over. So it was just, I think a lot of unknown. And then when we moved on from that then we had to really fast track learn things because with COVID then they got, some got into ICC, some got into multi-organ failures. Now we had to learn to use these CVVHD's with the ventilator, with everything else that was going on. And then the nurses started to get sick. And then so now there wasn't enough people to come on and work. And some of the people that came in the urgency, they didn't know the machines they, didn't know the Doctors protocols they didn't know, so now you've got your own patients to worry about. But now you must also worry about the other nurses that is next to you that needed help with the machines. And

then from that, then we did, yes, it was just now COVID patients, COVID patients, ventilators and they started dying, then that was, yes, then that made it even more difficult. And the fact that you nursed them, you admit them, and they're so struggling, and then you start them on a high flow, then you are with them to intubation, then you with them and you with them and you think that you are winning, and then you go off, you come back, and then this patient that you have nursed for so long is now on 100% oxygen, and they're not doing so well. And then you realize we are not coming back from this, but you still nurse them for like six weeks, and you know that they are dying anyway. You know and there is nothing you could have done to help them basically, and then there is the dying alone, then, you know, they are on their own and the family members want to come in but we can't let them come in.

R Okay, so I just want to go back. So you said that the PPE was a foreign thing for everybody, because you never really worn PPE, so that and you also had a distrust. Can you trust that PPE that you're wearing?

I Yes.

R So that was your experience with regards to the PPE?

I Yes it's not like we haven't worn it but I mean we've nursed patients with TB, we have nursed patients that that needed that precaution. But the way we were going on and on then you actually kind of second guess yourself, you know, that am I putting it on right, you know, and, you know, there was, yes the fact that we had the normal, the duck shaped N95, the pink one and then we had different other N95's that came in. And it's like, you know, is it working? Is it not? Does it work, does it actually protect me against this, you know, because also the media and everything and it was just, yes it was just one of the stresses if I can say it like that.

R So, so you experienced the stress, because you, it was one day, the one mask and another day it was another mask?

I Yes.

R Any other experience that you had wearing that specific PPE, except for the fact that you didn't know is this really working?

I It was hot. It was very uncomfortable. And in as much as it's hot and it's uncomfortable, then you can't even scratch your eyebrows if they are itchy, you can't even, you don't want to expose your skin because now you don't know. So yes, so it was, it was really uncomfortable. And at the same time, you know, this is actually my lifeline, I kind mess with this because this is protecting me from this virus. So yes, the PPE wasn't comfortable, but it was just necessary.

R So and as it went along did you have other experiences with regards to the PPE as we moved along with the COVID?

I No we got used to it. I mean we got used to it, when we started, we had a spotter. So you get dressed and there was a spotter there with you, they will say okay, your N95 is it sealed enough, everything, and then after a while, you know, you people are so used to it, we knew exactly where to start, and you know how to put on and how to put off. So we got used to it, even the discomfort. I mean, it wasn't as bad anymore. It became almost like it was natural ...[laughing]...

R It was like the new normal.

I Yes. Yes.

R Wearing the PPE. Okay, so although it was so uncomfortable and hot, you got used to wearing it?

I You got used to it.

R As for you it was your lifeline.

I Yes.

R To wear it to protect yourself. You've also mentioned earlier that, okay, initially there was not that many COVID patients. They were only two to three and then they became more as you moved along in the in the pandemic. And you also mentioned that during that time, everything was different. So you were two days

you worked and then two days off and then you came back and then everything was different. What was that things that were different that you referring to?

I It was mostly the patients, it was most of the patients like you leave them on a nasal cannula or on a rebreather, whatever, and then when you come back they are ventilated and they are very sick. Yes, you leave, like we had sections you left, when you left to go off, then there was like only four or five and then when you come back, the whole two sections of that backside is closed. So then it was, yes, it was, things were changing very fast, patients are getting sicker quicker.

R And so that was more a thing of the increase of the patients and also the severity of their conditions.

I Yes.

R How did that make you feel seeing all these patients deteriorate and from nasal cannula, moving over to ventilation.

I Helpless, you know, because there was nothing that we can do to help them get better basically, you know, it was just watch and weight, you know, are they going to be the ones that is just gone go to the world after high flow? Are they going to be the ones that is, that is going to go on the ventilator? And then how long are they going to be on the ventilator? Are we going to be able to bring them down quick enough or are they going to have to stretch and then it's going to carry on, you know? So it was, yes it was bad.

R So for you it was a helpless feeling that you actually felt you didn't know really what to do and how ...[intervened]...

I How to help them.

R How to help the patients. Okay, so you've mentioned some way about plastic on a patient, did I hear you correctly about that? Can you maybe tell me more about that plastic?

I So then they were intubated in everything and then we would cover them with like a clear plastic over them. Yes, that was in the first, very first few, the very

first few patients, they had to be there to be covered. I mean, we didn't know, nobody knew. The Doctors didn't know either. So it was more a trial and error kind of thing.

R So to what was the purpose of the plastic?

I To contain the droplets, I guess.

R So was that after the ventilation?

I That is for the, yes for the ventilated patients, but if they were awake and everything, they were not, but the ventilated patients.

R How did that make you feel to put the patient in this plastic?

I Yes, it felt, you know but at the same time, you also thinking okay, we, it's necessary, because we protecting myself, my colleagues and other patients that have not deteriorated this much yet. So we are protecting each other so we changed the plastics regularly and the Doctors would come, do the exam and also just cover the patients like that. Yes, it looks, you know in the thinking, okay, this could actually be me, you know, but yes.

R So they were nursed under this plastic?

I So yes.

R Okay the whole time so it was not just for certain periods.

I Yes the whole time.

R All the ventilated patients?

I The ventilated patients yes.

R And for how long did that practice continue?

I It's difficult to tell now ...[laughing]... .

R Okay ...[laughing]... I know it's a while ago.

I Yes.

R Alright so you felt that it was necessary to protect yourself and your colleagues?

I Yes.

R Treating the patient at that stage under that plastic?

I Yes.

R Okay. You also mentioned about the patients got sicker and you treated patients with multi organ failure, CVVHD, and you had to fast track learn, how did you manage that aspect? Because if I hear you correctly, that those are new things that you were not that familiar with?

I Yes. So like the one day so I was working in trauma for, since I qualified and then I moved to ICU in March of 2019. And then March, April, May then June we started admitting. So I was also still very new in ICU. I mean, all this equipment and all this was all new to me. And then I remember the one day we struggled with a patient, he wasn't urinating, and we had to change his catheters, re-catheterise, ...[inaudible 15:08]... his blood and nothing was working. And then the Doctor did the rounds at about fiveish close to the end of the shift and then she put in lines and she said this patient must be on CVVHD, it must be commenced that night. So then I handed over, I went home. And then when I came back the following day, then I'm allocated to the same patient. So I went to the shift ...[inaudible 15:32]... and I said to her, I'm allocated to this patient but we put in a line yesterday, he needs to be on CCVHD. And she said yes CCVHD was commenced in the night. And I'm like, but I don't even know what is CCVHD ...[laughing]... I don't even know what it stands for. I didn't even know what it does. So now, can you change me with this I am not comfortable? So she says to me, no there is nobody else, you know, there's people in there that can help you, but there is nobody else, you just have to take the patient. So, I mean, what do you do, you left your house, you come to work and there is the work. So then I went in, and then I took over from a staff nurse, so he says to me, okay, this is how you change the bags, this is where you see the volume that is being removed in the night. And then the hour, and this is where you document, this is where you write this, this is where you write

this. You can just follow what I did. And then when she left, so then ...[laughing]...

R ...[laughing]... And you were there left with the patient?

I So then there I was with this patient and you know, usually, usually you can go to someone and say, you know, what, can you come have a look? Or can you come help me? What is this and they would stand there and they will tick you and they troubleshoot and everything, but for some reason, it felt like you were constantly busy, you were constantly behind, you were constantly, there was just constantly things and things to do and you know, so then I called one of the Sisters and I said to her you know what, please tell me, you know, she told me, this is where I must write this and this and this and this is how I must change this but, you know like, so she also gave me a quick like tour of the machine and she says but it's fine. If anything, if it alarms and something is wrong, just come call me. And then then she corrected some of the things that the staff had told me and said okay, no, but this is not what you write there, this is what you write ...[laughing]... and there I was.

R Okay. So you just jumped in and you ...[intervened]...

I So then I just had to.

R Okay. And how did you initially feel when you had now this patient and you need to look after CVVHD concept? How was your first, I mean you went to the shift leader but what was the feeling there when you realized you're going to have to look after this passion.

I When I realized there's no getting out of it then I'm like, okay we are doing this. So then, then I went in and asked the one that was handing over to me, so she told me what she can and then I asked the other Sister and she told me what she can, so out of all that then I knew okay, what I need to do to make sure that this wheel, they said to me the wheel needs to keep turning ...[laughing]...

R ...[Laughing]...

I So then yes. So it just carried on from there, so you know there is, the anxiety it's there, but I mean the moment you realise, you know this is it, I am there, I

am the person, then you just have to put your anxieties and fears aside and do what you need to.

R And at the end of that shift, what was your experience after that day, when you left the hospital?

I Good. I felt like, you know, I had conquered, I didn't know this machine before. And now, I managed to keep the wheel turning for 12 hours ...[laughing]...

R ...[laughing]...

I Yes, so it felt, it felt good. It felt good. Like, you know, okay, I've learned, today I have grown. Yes.

R Okay so during COVID you've mentioned, I mean, this is a new pandemic, and you were new in the ICU environment, but you've learned about new equipment. So you've learned the CVVHD because you didn't have a choice you had to learn.

I Yes.

R What about ventilation? Were you familiar with that, or was it something that you also had to learn.

I You know, I mean, in trauma we intubate patients, but it was, the equipment is also different. Trauma they have got an Oxalic, which is like just a small little portable thing. And I knew just the basics, because in trauma the Doctor is right there like they, he dials in his values. And then he says, okay, do a blood test in 15 and show me, you do a blood gas, you give him and he decides what he wants to do. He comes, he fiddles with the machine and then that's it. if he does with this machine, and then that's it. But so, yes, and then one day as well, I came on and there is my name, ...[laughing]... so I say to them, but I can't you know, I don't even know what is tidal volume. I don't even know where to get it. I don't know the only thing I know this oxygen. So is it okay, these people, they will show you something. And then I say to them, I said to the one that the shift leading for us, I said you must just come help me take over this patient. So she came, we took over together? Because I mean, now with ventilated patients that is a whole different ballgame. That's so many things you need to get from

...[inaudible 21:19]... . So she took over with me and then she said to me, okay, this is, this is what we mean when we do this. So I said to her you must teach me because I don't want to be just also saying the volume and what and I don't even know what I'm talking about. So she gave me a good, a good teaching. So she took down with me. And she taught me. And then he said, okay, after tea, we will do a blood test. And then I'll show you, I'll explain to you what that means in what we got and what we want. So we did that. And she came with me after tea. And then so when we went to tea, I went on YouTube, so then I could at least, because I thought my thinking when I want, I thought I was going to learn, I thought, you know someone else can come and give me a theory and say to me, this is a theory about ventilation, go home, go and read and go study and I will come and they will say okay buddy me, because that's what learning, that's how we learned. Okay, buddy me, and then I will, then we take it from there. And then tomorrow, that person will buddy me, because now I'm the main nurse and then we learn from there, it was not like that. It was okay, this is how we do it. This is what we set in, this is what the patient gives back. And this is how we collate and this is. Okay. Are you okay? Do you have questions? No. Okay, go for it. ...[laughing]...

R ...[laughing]... So you were actually, you're learning experience with this ventilation and even the CVVHD he was learning by working with this patient. There was no buddy for you in that time.

I No.

R Alright, and again, after that, how did you feel after that day when you were left?

I With ventilation, its, you know, I've always been that students that, you know, just, like, knowledge that, you know the knowledge that is out there is not good enough, I want to, I really want to know. So, yes, that day as much as the patient did not die. The patient was still when I went home, you know, I felt like I did the patient a disservice, you know, because what was I monitoring, you know, as I'm standing there, but if something could have been abnormal, would I be able to actually recognize that, okay, something is abnormal, or if the senior Sister has gone out or busy and if something alarms that something was wrong, was I going to be able to pick it up and actually know what to do? So that was, I felt

that day, in as much as it was exciting that I am learning something new, this is growth, I felt like I did that patient a disservice, you know, because I wasn't equipped or qualified enough to actually nurse them and monitor them. So I went home and yes, I was on YouTube. And I did that. And then the following day I came and then they gave me the same patient. So it was a little bit at least, I know his tidal volumes need to be about 500 so this is normal for him. So it was a bit easier.

R Okay.

I And then the following day, they gave me different patients I said to them, please put me back to the pain that I was with because at least there is not too many things to try and figure out I know where we were and I know more or less what his blood gas is, his ranges I know his medication so then I don't have to then take 30 minutes trying to figure out which medication is for where and everything. So then that's how I learned.

R Okay. So even though you felt that you did your patient a disservice, as you didn't really know what you were monitoring, you grabbed the opportunity, and you learned going forward?

I Yes. So that that was, that was that was exciting.

R Okay. I want to come back to the COVID time you mentioned, during that time, a lot of nurses got sick, and that they were not enough people. There was agency staff that didn't know the machines that didn't know the Doctor's protocol. So you are to assist them with that also. Can you maybe tell me a little bit more about your experiences with not enough people? How did that have an impact on how you nursed? How did it influence how you cared for your patients?

I That was yes, you had to choose? The one night I had three ventilated patients. And others also we all doubled and tripled like that. And then in all that, the Doctor came, phoned to say there's a patient coming in from the ward and the patient is, we need to intubate the patient. So now, everything else had to stand still basically, because now we had to admit, we had to set up for intubation, we had to set up the infusions. We had, so then by the time we were done,

incubating in A lines and CDP's for that patient, then you got your patient, then whatever you left, the infusions is finished. Now you must kind of restart everything again. And so it was just it was just that you, you had to choose. Okay, now, do I wash, do I do mouth care, do I give antibiotics, do I go and get sedation from we call the Green Zone? Do I help my colleague that needs to clean the patient that has the diarrhoea? Or do I stand on the phone and talk with the family member? So it was just, you know, it was just too many things that you needed to do and on top of that you wearing this hot PPE ...[laughing]... this hot hot PPE. Yes, so it was the short staff, it made it more unbearable and more difficult.

R Okay, so. So you say that you, was it quite often that it happened that you had to look after three ventilated patients?

I It wasn't often for three, but for two it kind of became ...[intervened]...

R That was the norm?

I The norm.

R So two to three ventilated patients? And normally are how many patients do you have, in normal circumstances that you care for?

I Normally, when you ventilate it is one on one.

R One on one okay.

I And then it is two high care patients but yes with COVID, we had to, we had to do ...[intervened]...

R Two to three patients.

I Two vents yes.

R Now you mentioned about that specific was its night duty that happened, so that you had to admit the patient, you intubate. Put up all the lines, and you're your patients, the work there just stood still?

I Yes.

R And how did you make a decision what to do? You mentioned now you had to make a decision to get sedation, I'm going to wash the patient, help my colleague, how do you make a decision, where are you going to start?

I ...[Laughing]... I don't know really, I think it was just, you know, what's going to kill this patient first you know kind of thing. And then you do that, we all understood, you know, the patient needs to remain sleeping and whatever happens, the medication must go, so then you make sure your patient is sleeping, so you mix sedation and the antibiotics and the medication and we give that. And then we start helping each other, so if your colleague is now desperate, because I mean we had to give a lot of laxatives. So hyperbolic ...[inaudible 29:36]... patient comes first before your own catheter care, you know then do I do catheter care? Do I turn the patient and then you turn the patient and then for like 30 minutes to an hour you standing on your toes because then they desaturating and they're not coping with that. And so it was yes, for me, it was you know, now, what's going to make my life more difficulty here. Should I let this sedation run dry and then I must go knock on the green side to get sedation and then by the time I come back he is awake and he is, yes, so it was just more like that you know, what is going to kill this patient and what is going to, what is it that if I don't do it now, it's going to make my life more difficult, then I would do that.

R So at that given time you decided what is going to make the life easier for you and then ...[intervened]...

I Not kill the ...[laughing]...

R Not kill the patient ...[laughing]...

I Yes. ...[laughing]...

R Alright and if I hear mostly it was the medication that won?

I ...[Laughing]... yes.

R So how did it make you feel as a nurse? Because if I hear you make a decision, am I going to do mouth care, catheter care, but now I actually make a decision

I am going to give medication now. So how does that make you feel as a nurse not being able to provide this basic care?

I Yes. So you know, we get trained and it gets into your ...[inaudible 31:08]... a patient with a catheter, catheter care must be done, mouth care must be done. A patient that is bedridden must be turned and all that. But with COVID the situation, the environment, the atmosphere, you couldn't, you just could not do two hourly turnings, and mouth care and catheter care and everything else that needed to be done you know, so you just make sure at least by the time you finish your 12 hours, you should have had some catheter care done and you know, you should have had at least mouth care. But it felt like it wasn't fair for the patients, but then with the way they were so sick with the way that there were a lot of them and so little of us, you know, some of the things like turning, it didn't feel like it was that much important anymore. You know, it felt like there was other more pressing things that we needed to do to help and keep these patients, keep this patient stable than turning them every two hours and fiddling and, you know, yes.

R Okay, alright so for you, you know, as nurses, you've learned about care. And the important thing was to keep that patient okay for that time period. So you're either not going to turn a patient?

I Yes.

R And make the patient unstable.

I Yes.

R Alright, anything else on the care of the patient that you've experienced, you've mentioned about, you also mentioned the but the choosing that you have to talk to the family. And I also think that you've mentioned that the patients were alone. So can you maybe tell us a little bit more about your experiences with regards to family or not having the family there in the environment?

I They wouldn't have understood, you know, what they were seeing and what their family members were, it was just they would get sick. I mean, they'll get ...[inaudible 33:23]... and everything, but they would phone, you know, they

would phone to ask and you kind of would, you know, recognize okay, now I'm speaking to May or whatever. And you know, it was difficult to say, to talk with them. Because you can hear hope in their voices. And you're standing in front of this patient and you're looking at the ventilator and you're looking at how the patient is looking and you are looking at the, everything and you thinking you know, now what do I tell them? You know, I can't tell them anything about the blood pressure because the blood pressure is low, we are struggling, you know, I can't tell them the ventilator, because what good thing can I, what word of hope can I give these people so that at least they can hold on to that for the next twelve hours until they phone again. And sometimes there was nothing. Sometimes there was no positive thing to say and they would phone and they would phone again tomorrow. And they would phone again the day after that, and they would phone again you know. You know, for the whole time that patient was there and they are like is there not a chance that I can just come like I said not a chance I can just come and pray for them. And you are like, no, you can't, you are not allowed to. Yes so that was, that was difficult. You know, sometimes you want to say you know what the blood pressure is low but we are giving medication and he is improving, but at least the breathing is better. You know, something like that, or the breathing is not so well, but at least the blood pressure is fine. You know, at least you want to give them something to hold on to. But most of these patients, there was nothing, it was just the kidneys are not working well. The lungs is not working well, the blood pressure is still low. It was just waves of bad news that was, yes so if the phone rings and they are like your patient, and but after a while, the unit manager would come in and then she started making phone calls to the family member. So at least we didn't have to do. So she would come in and go bed to bed, and then tell them that, she was also very blunt if I should say it like that. She would tell them okay, I'm worried they are not doing well. Okay, so at least that took away that extra, I can say it that extra part of things you know.

R Like emotional burden maybe?

I Yes. So at we didn't have to deal with that.

R So for you that the difficult part was when the phoned and there is actually not positive news, how do you, what do you tell that patient's family? What and you try do to give them something to hold on?

I Something yes. So and that was the difficult part because as a RN you can see what the patient's condition is, and the family not, so you are actually their eyes and ears.

I Yes ...[laughing]...

R But for you it became a little bit better when the unit manager actually did those calls on behalf of you to relieve you from that?

I Yes because at least she would tell them, I will phone you again tomorrow. So at least they knew they were going to get a phone call, so they were not phoning as they were before.

R So that was less burden also for you going to a phone, taking you away from the patient at the end of the day?

I Yes.

R I just want to stand still on patients dying. You said earlier on patients was not that sick and later on they became sick and patients died? How did that impact on you? What was the influence it had on you have those patients dying?

I You know, any patient that you care for dying is, it touches you in a way you know, and but with COVID patients it was different. Because like I say they would come in, not all of them came in ventilated. They came in hyperventilating, scared and they would be like, they will tell you, I am so scared, am I going to die? What's going to happen to me? And then am I going to get better? You know, and then you reassure them and then, but you can see that the blood gas looks horrible and then after the while, they are on high flow. And then you keep going up with the oxygen and you are thinking okay, and they still look at you, pray with me, Sister, you know, I'm scared. Am I going to die? And then, but the thing is you can see and you know, what do you tell them? You know, it's like no, we pray together and we reassure as much as we can. But I mean in as much as you're reassuring in your heart of hearts, you

know, I'm talking nonsense and you know this patient is actually very sick. You know, and then they intubation comes and then they get intubated. And then at least they're not talking to you anymore. But still, you can still see how they were scared when they came in and how they were scared to die and are they actually going to pull through, so it was and like I say, COVID patients did not get sick over a week and pass on, they stayed long. And of those long, of all those weeks especially the patients that came in, you talk to them as we're giving them care, you cared for them. You get attached to them, you learn to, from being just care for them, you learn to actually really love these people because you are taking care of them, you cleaning them, you are you making sure they are dry. You're giving them the medication and everything you know and a simple thing like winning, have an O2 from 95 to 90 that was, that was huge. That was a milestone and then you celebrate showing everybody your blood gas ...[laughing]...

R Okay.

I You know, because you learned, because over the time then I need to just not care for them, really and some of them, you look at them and then you are thinking, you know, this person could be my grandfather, this person could be my relatives, you know? And then then it makes it even more personal, you know. So having them pass on, its, it was difficult that was really quite emotional.

R So, how did you deal with those emotions?

I I don't even know I dealt with it. That's the trouble you know, but when I got home, at least I would sit in the car for a bit, and then I'd speak to my husband and I would let him know whatever was the highlight and the low lights and then we talked, and then before I get into the house, then I get into the house, straight to the shower. And then then I realized, you know what yes it was difficult. Yes it was sad, but not at work anymore. You know, like, I needed to cry, then I'd cry in the shower. By the time I come out, then I tell myself, you know, okay you are not at work anymore, you are home, you have your children. That's it. Then, tomorrow morning, I put on the uniform again, and then I walk in and then it's, oh okay. COVID is actually there, we are back again.

R Okay.

I Yes.

R So even you have a background where we you were in areas where patients died. COVID was different, the patients were different because they came in talking, you cared for them, they intubated and you actually it's like you building a relationship with these patients, because they stayed so long. So that made it very difficult for you.

I Yes.

R But your lifeline was, I am using your words that you earlier used for the PPE, going home, talk to your husband, so and that was for you crying when you had to and but you're at home. So you try to differentiate, this is home and this is work.

I Yes.

R Because you mentioned when you put on your uniform you back at work, you back at COVID ...[laughing]... ?

I ...[laughing]... Yes.

R Okay, so that was your experience with a dying patients. Any other things that are influenced what the COVID pandemic had impacted on you, on you and maybe your family?

I I guess it's the hyper, hyper vigilantism you know like now you, initially, I would take off my shoes before I get into the car, put my shoes in a little plastic bag because I was walking in this red zone the whole day. And I don't know, I don't want to this into the car that I am going to get with my kids. And then I would get home, I had spare towels that I kept in the garage, we drive into the garage. I take off my uniform, straight into washing machine and on 90-degree cycle. 90-degree cycle and then my baby was 18 months, he wasn't even two yet. So then I would say to the old one, okay we are here, so he would take the baby out of the way and then I just run in the house naked with the towel ...[laughing]... and straight to the shower. And then, yes, and then hot as I could,

and then I would shower. And then, so it was, it was you know, that became okay, what am I touching? You know, where am I? Did I wash enough, did I, that kind of thing? You know, it wasn't just okay, you know, the way I had to wash my clothes, it was my clothes and my uniforms. And then the rest everywhere. So it became exhausting. You know, it became really exhausting. But also knowing I have to, and in as much as I'm not really feeling up for it. But I have to, because I don't want to bring this to my kids. You know?

R So you actually you put a lot of measures in place to try not to take COVID home.

I ...[laughing]... yes.

R But it was an exhausting experience, did you continue with that practice throughout COVID?

I Yes, yes throughout COVID. My hair is relaxed but I had to wash my hair. So I had to stand under the shower. And yes, so it was, it was just all that I had to, couldn't take the chance.

R Okay. Any other maybe physical symptoms or things that you've experienced due to COVID?

I No.

R Nothing?

I No I didn't experience anything.

R Alright and your family were they alright with coping with you working in a COVID environment?

I It was, they needed lots of reassuring, especially my husband and my mom, but you know, I had to reassure them. And after a while, I think, with all the little measures that we put in place, we realized, okay, you know, we're doing the best that we can. And if it does happen, that we do get it, it's we, you know, people are getting sick, and they don't even know where they got it from. So you know as long as we do the best we can, avoid going out unnecessarily avoid getting people into our house. And you know, wear the mask and

sanitisers, they're saying we should, so it became, okay. So at least their anxieties were, which made life a bit easier for me, you know, because now they're worried, now I have to reassure them and reassure them, so when they could actually be on the same place and you say okay, you know what, yes its dangerous, but I am safe to a certain extent that made it at least okay for all of us.

R So you reassuring them is about your safety?

I Yes.

R Was that you are actually okay?

I Yes. I am okay.

R But you're also putting things in place to keep them safe.

I Yes.

R So you will say that your family was right throughout the COVID experience, although you worked in a COVID area?

I Yes.

R Alright. Just another question. Management, is there anything that you can tell with regard to experiences about management strategies that was put in place during COVID? We thinking about the, yes we talked about staffing, so was there anything in place with regards to those shortages of staff, support, training, anything like that, that you've experienced, from management?

I ...[laughing]... In as much as support, we had to support each other, because it was, it was, we knew what we were all going through, you know, so we had to support each other. And in terms of training, training was there if you wanted to, like I had to say, you know, what, you have to tell me now what's happening? What is ventilation? Why, what are we doing here and what are we looking out for? And not everybody was like that, but then there was nobody that came in to actually check to see what people were doing, because we were all thrown in the deep end. People were coming in from the ward and there is a patient that is on the ventilator that they must manage. So there wasn't that much

training and like checking up on people, in the red zone, basically you do what you do. There was no you know, like follow up to say well is the medication actually being administered, kind of thing? Okay, is a suppression actually being cleaned? Or, there wasn't that follow up. And yes, so staffing yes, they brought in people from the ward to come and help but like I say, some of the held it was more of a burden to you and then you thinking I can't not go to this person because I have to go and look and see what they're doing because we know they don't work with these things in their wards. So it was more yes, there is someone who is standing there watching the patient but they didn't really, they were not really equipped to deal with a sickness and the degree of illness that this patient had.

R Okay, so staffing, staff from the ward was brought in who never worked in ICU before?

I Yes.

R But they were not really equipped so you, you actually seen those as a burden, although they were there you had to assist them with certain activities as they were not familiar.

I Yes so now you must watch over this to see that they are not ...[laughing]... yes so now you must actually watch to see that this patient, these people are not doing what they're not supposed to. And that the patients are still okay. And whatever they're doing they're doing it correctly. So yes, it was a burden and now you're looking at this patient and you are thinking this person's wife is waiting at home you know, this person's husband and children are waiting at home and you know, we have to do it right to make sure that they go home so it was, it was a burden.

R It was a burden for you.

I Yes and as much as they were supposed to help but it made me stress now you must stress for your own patient ...[laughing]... and I am stressing for the other people's patients. Yes.

R So it's not just your patients, you looked after the other patients also?

- I Yes.
- R You mentioned there was no one really checking up in the red zone. Who did you want to do that checking?
- I I don't know. Now we've got a CTS, we have got the unit manager they all come in, they are all visible to check and see that, you know, Doctor's orders are carried out in you know, things are done. That's why we've got shift leaders.
- R Now currently?
- I Yes. But then there wasn't, there wasn't anything like that it was more okay, it's your patient, you decide how you manage your patient, you decide Doctors rounds, you do your own Doctor's rounds, the Doctor comes to you and you tell the Doctor what's happening with your patient and the Doctor tells you what you, what she wants to do with the patient and that is it. And that's it. So there was no accountability. I think that's the word. Yes, there was really no accountability. It just, it was, for me it was me and my conscience. You know, you know, am I going to be, after I take off the scrubs and this PPE and I am going home? Am I going to feel like I did the best that I could for this patient? Am I not going to feel bad. Like the day I did three ventilated patients it was so, it was a difficult because I mean, I knew I'm not giving this patients my best, but how can I wash three ventilated patients on one shift and mix their sedations and give them medication and also take a break and also go pee ...[laughing]... and also go rest, so walking away it was like, I am so exhausted. But with all this exhaustion, I didn't give these patients what they needed but all the care that I should, I could have given them today. Not because I didn't want to, not because I was sitting but because I couldn't. I just didn't have enough time in my shift to do everything.
- R You couldn't. So you would have liked that there was like a shift leader or a unit manager just coming in that red zone, COVID area, checking ...[intervened]...
- I And teaching and making sure that ...[intervened]...
- R That you are doing the right things.
- I Yes. Yes.

R Okay, alright. And that was the difficult part, you just, you were there, you had to care for your patients to the best of your ability. Although you couldn't do that with three patients.

I Yes.

R And it was that exhaustion and you feeling that you have not done the best for your patients? Is there anything else you say that you've supported each other, any support from management, and things that I put in place for you during that time except for giving you staff from wards?

I Not during the peak? After a while then after I think like the last wave or somewhere there, I can't remember then we had the care for you stuff that was put in place. But I mean you can't afford to come sit and talk about your feelings and then you're thinking it's 10 o'clock I must go give Marilyn, do I have enough sedation, you know, so there wasn't, it was just not practical and I mean the open-door policy always turns you know, come, come talk to us but then it's, it wasn't warm enough to actually go say you know what, the one day with this, we took over and the patient was dying, the patient died. Before I could even come out of the room then it's like okay, listen when this patient comes out of this bed you can help with that other patient that needs to be intubated and ventilated. So can we speed thing up. So there wasn't, there wasn't time to actually, you know, ...[intervened]...

R To debrief.

I Yes just to realize okay, shoo my patient actually died, my patient is no more. How do I feel, where am I, okay, that is fine, it was going to happen, it has happened there was nothing that we could have done. Okay. You know do right by that patient before you move on, but no, we had to you know, like CVP airlines everything out and then phone the undertakers, they must come and take this patient, and where is the cleaners we need to clean and robot and admit. So there wasn't enough time to actually feel sad if I should say like that because now you must be busy getting rid of this body so that you can admit another one and you know, with intubation. It's not okay, we are done, then you must intubate, then there's drugs and then there is that first blood gas and then

there is making sure that the lines are all, then there's the new infusion. So it was just by the time you realize you haven't written anything, then is the night shift are coming or the day shifts are coming, then you are, then you must go home, and then you go home, then you can't go home and think about the patient that you've lost, because now you're at home, people are waiting for you. 12 hours to say mommy's coming, you know? So, yes, support. That support I can't say it wasn't there. I can't say it was not possible. But, I mean, we would hug each other with the PPE. And then you know, okay, you know, they are accepting that this is what I'm going through, I have lost my patient, and that's it. And then we just carry on.

R Okay. So, for you, you actually, you cannot really pinpoint that you have that experience of support?

I No.

R But, you know, during, like you've mentioned during your COVID period, a patient died, you need to get that patient out of bed, there is a new person coming. So ...[intervened]...

I The one day the one Doctor said okay the patient in this bed is dying, when they die, phone ...[laughing]... the ward and tell them to bring this patient in, the patient is not even dead yet. Yes we are expecting it? Yes, we know it's going to happen. But it felt so dehumanizing, you know like you hurry up and die so we can put someone else in this bed.

R So dehumanizing the patient, acknowledging that person, but also giving you time to actually debrief and mourn this patient that you looked after. So that was, that was a part that was missing? Yes. And that that support that you needed for that? That dying passion?

I Yes.

R Okay, and that support that you needed with that dying patient at the end of the day?

I Yes.

R Okay is there anything else that you want to share about your experience during COVID? If you look back now, anything else that pops up?

I I have nothing, nothing really in particular.

R Are you ready for the next pandemic?

I I hope there is none that is coming ...[laughing]...

R ...[laughing]...

I But I think whatever comes we are more equipped. You know, it's, it's, yes, I think we will handle it much much differently than we did with COVID. Because as much as COVID came in with waves, it just, they were different. There was differently, some were sick for long, some were, it wasn't as long but they got sick very quickly, and they just died quicker than the others. So it was, it was different. You know, the one wave came in with the DICs that were bleeding, they were bleeding from the mouth, from all the CVPs and all the lines and the catheters, they were just bleeding, that was the one wave. So it was, yes I think we have learned.

R So the waves had different types of patients.

I Yes.

R And it was a different experience. But you think of this years, two years we are equipped better?

I I think we are, I think this was just ...[intervened]...

R Emotionally?

I We didn't even know that we could do it. But now you know we will look back and we will say you know what, we can handle anything look at how we did COVID. COVID came and COVID left and we are still standing. So I think that's going to, that's going to be where we're going to get our strength from, you know. In as much as COVID was not easy, but we lost people but we still standing. There are some of us that are still standing. And whatever happens you know ...[laughing]... .

R Okay alright, nothing else?

I No nothing.

R Alright let me just stop the recordings.

RECORDING END

APPENDIX 7: DECLARATIONS BY LANGUAGE EDITORS



Language, Communication and Design Services

P.O. Box 392

Croets 2112

30 November 2022

To whom it may concern

Confirmation/Declaration of editing

This is to confirm/I hereby declare that I have language edited the master's dissertation titled: **THE EXPERIENCES OF CRITICAL CARE NURSES WORKING IN THE PRIVATE SECTOR, IN THE WESTERN CAPE, DURING THE COVID-19 PANDEMIC** prepared by Tharisa Vollgraaff and submitted in fulfilment of the requirements for the degree of Master of Nursing Science, under the supervision of Mrs Ramona Anthonie.

Yours faithfully



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