EXPERIENCES OF NON-CRITICAL CARE TRAINED PROFESSIONAL NURSES DEPLOYED TO WORK IN THE INTENSIVE CARE UNITS DURING THE CORONAVIRUS 2019 (COVID-19) PANDEMIC

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Declaration

This is to certify that the work is entirely my own and not of any other person, unless explicitly acknowledged (including citation of published and unpublished sources). The work has not previously been submitted in any form to the Durban University of Technology or to any other institution for assessment or for any other purpose.

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Approved for final submission

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Abstract

Background

South Africa has been greatly affected by the Coronavirus Disease 2019 (COVID-19) pandemic causing a crippling effect on the country's healthcare system as it was not adequately prepared in terms of staffing, equipment and disaster planning. Due to the nature of the COVID-19 outbreak and subsequent mitigation plans, non-specialist nurses were deployed to the intensive care units (ICUs) to assist with patient care, control sophisticated therapeutic assist devices and assume multiple roles that were beyond their scope of practice.

Aim of the study

The aim of the study was to describe the experiences of non-critical care trained nurses, deployed to work in the ICUs during the COVID-19 pandemic, at a private hospital in the KwaZulu-Natal region.

Methodology

A qualitative, descriptive design guided the study. Fifteen non-critical care trained nurses were purposively sampled and interviewed using a semi-structured interview guide. Audio-recordings were transcribed verbatim and analysed using Braun and Clarke's (2006) thematic analysis framework.

Findings

The experiences of non-critical care trained nurses deployed to work in the ICUs during the COVID-19 pandemic yielded four main themes, namely, deployed nurses working in an unfamiliar environment; nurses lack of ICU experience, skills and knowledge; the lack of supervision, mentorship and leadership for the deployed nurses and the psychosocial impact of the deployment of nurses to the ICUs during the COVID-19 pandemic.

Conclusion

Nurses deployed to work during the COVID-19 pandemic endured overwhelming responsibilities while they provided care to the critically ill and infected patients in the ICU. These roles were executed without proper intensive care training, qualification, skills and leadership. Thus, there is a dire need for disaster management training for all staff, especially nurses in the healthcare setting. Supervision, peer-mentorship and support systems such as counselling should be readily available during disaster management.

Key words: nurses, experience, intensive care unit, COVID-19

Dedication

I dedicate this study to a very good friend of mine Emmanuel Korsah, who without him, this would not have been possible. Thank you for your continued support and encouragement. I would also like to dedicate my work to all the nurses who worked tirelessly throughout the COVID-19 pandemic.

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Table of contents

List of tables

List of figures

Appendices

Glossary of terms

Coronavirus disease (COVID-19): An infectious disease caused by a newly discovered coronavirus (Chan, 2020).

Disaster: A serious disruption of the functioning of a society or community causing widespread human, material, economic or environmental losses which exceed the ability of the affected society or community to cope using its resources (International Federation of Red Cross and Red Crescent Societies, 2021).

Experience: Experience is defined by the Cambridge Oxford Dictionary (2020) as how someone feels after going through something. In this study, experience refers to how nurses reported personal feelings after being deployed to the ICUs during COVID-19 or while working with COVID-19 patients in the various ICUs.

Pandemic: A pandemic is known as a global outbreak of a serious infection disease usually affecting large numbers of people (Kelly, 2011).

Acronyms

Acronym	Full word/sentence
COVID-19	Coronavirus Disease 2019
FEMA	Federal Emergency Management Agency
ICN	ICU International Council of Nurses
ICU	Intensive Care Unit
IFRC	International Federation of Red Cross
KZN	KwaZulu-Natal
PPE	Protective Personal Equipment
RCS	Red Crescent Societies
SA	South Africa
SANC	South African Nursing Council
UNDRR	United Nations Office for Disaster Risk Reduction
US	United States
USA	United States of America
WHO	World Health Organisation

CHAPTER 1: OVERVIEW OF THE STUDY

1.1 INTRODUCTION AND BACKGROUND

1.1.1 Disaster in a hospital

Disasters have always presented challenges to the healthcare systems, healthcare providers and society. The International Federation of Red Cross and Red Crescent Societies [IFRC] (2021, p.1) defines a disaster as *"a sudden, calamitous event that seriously disrupts the functioning of a community or society and causes human, material, and economic or environmental losses that exceed the community's or society's ability to cope using its own resources*". The nature of the event often requires a request to the national or international level for assistance. Disasters are classified as natural or human-made, infectious disease or non-infectious disease disaster. Infectious disease disasters include any event that involves a biological agent or disease such as an outbreak of an emerging infectious disease, bioterrorism and pandemics. Non-infectious disease disasters include all-natural and human-made events that do not have an infectious agent as the source of the incident, such as a tornado, bridge collapse or flood (Rebmann 2020:1-5).

1.1.2 COVID-19 Pandemic

The Coronavirus Disease 2019 (COVID-19) pandemic, an infectious disease disaster, is an ongoing spread of coronavirus disease identified in 2019. The outbreak began in Wuhan, Hubei Province in China at the end of December 2019 (Rothan and Byrareddy 2020:1). The disease has rapidly spread globally, with a reported confirmed case of over 600 million and 6 million deaths as of 23 September 2022 (WHO, 2022). The COVID-19 outbreak has touched every level of society across the world. Several public health emergency response systems, hospitals and healthcare professionals were not adequately prepared for such an outbreak (Chan 2020:384). The inadequate workforce, such as caregivers with intensive care experiences and resources, namely

personal protective equipment, masks and ventilators, led to a delayed provision of definitive care and early response (Chan 2020:383; González-Gil *et al*. 2021:1-9). The increasing numbers of COVID-19 cases outweighed the medical capacity of many countries. Due to the uncontrollable growing numbers of cases and spread, the World Health Organisation (WHO) declared the outbreak a pandemic on 11 March 2020 (WHO, 2020).

The declaration of the outbreak as a pandemic necessitated an early and emergency response to fight the epidemic at the global, national, regional and local levels (Chan 2020:383). Globally, many countries have been hit with increasing COVID-19 infections and deaths. The early and emergency responses have led to the deployment of healthcare providers into various unfamiliar care centres (Al-Omari *et al.* 2020:4). The COVID-19 has placed a significant strain on Intensive Care Units (ICUs) worldwide, including South Africa and most healthcare systems increased the supply of healthcare workers to the surge to control the devastating effects of the pandemic and save lives. Healthcare professionals, especially nurses and some non-critical care trained professionals, were transferred from other health care settings and outpatient departments into technical environments such as the intensive care unit (ICU) to play specific roles and save lives. The sudden transfers and re-allocations of these nurses were necessary to curtail the spread of the virus. However, these changes were unexpected, and the majority had no previous experience and limited training on disaster preparedness and management or nursing patients on support devices such as ventilators and other respiratory modalities. The COVID-19 has placed a significant strain on ICUs worldwide, including South Africa.

1.1.3 Deployment of general nurses to the critical care units

The COVID-19 pandemic has been a challenge for intensive care services, even to date. The new nature of the disease and the rapid influx of patients to intensive care units required rapid development of innovative strategies across the various healthcare

systems and settings globally. In addition to the already existing staff shortages, there was the need to optimise resources and allocate staff accordingly. The deployment of healthcare workers from other specialities to ICUs was seen to achieve a sustainable delivery of patient care, provide adequate care and maintain staff well-being (Hettle *et al.* 2020:41). However, staff deployment comes with adequate education and training of staff (Al-Omari *et al.* 2020:4).

The nature of care provided in the ICUs during the COVID-19 requires special training and management skills such as frequent sanitisation, personal protective equipment (PPE), and respiratory assistive devices (Chan 2020: 384). Again, the intensive care environment's dynamic and demanding nature compel healthcare providers to deliver competent care with confidence, make quick decisions and work efficiently with sophisticated machines. The majority of nurses deployed to assist with patient care in the ICU had no formal ICU training and are less competent to deal with life-threatening cases such as COVID-19 patients and were not used to daily infection control measures (Al-Omari *et al.* 2020:4; San Juan *et al.* 2021:8). They were forced to adapt to the fast-paced environment created by the COVID-19 pandemic and the rapid influx of COVID-19 patients.

Despite having a professional obligation to care for the community during a pandemic, many nurses have concerns about their work and its impact personally (Crowe *et al*. 2021:5). In particular, the risk of being infected, transmission to family members, stigma about their job vulnerabilities, and restrictions on personal freedom have been reported as critical concerns. Nurses' have been reported to experience stress associated with separation from their families, sleep deprivation and heavy workloads created by health system demand and staff shortages (Fernandez *et al*. 2020:1-9).

The deployment of non-critical care trained professionals, although, a measure to help control the disaster, posed multiple challenges to nurses and the hospital. The hospitals had to devise new ways of working, changes in working hours and outlining several

measures to train nurses in the midst of the pandemic. The deployed nurses also had to work in unfamiliar environments that were fast-paced and make quick decisions to save lives. These nurses had challenges dealing with highly infectious patients, risking their lives and that of their families and the high level of stress related to managing COVID-19 patients (Liu *et al*. 2020:794; San Juan *et al*. 2021:7). The majority of the nurses were overwhelmed by the workload and protective gear. Again, the level of uncertainties and fear of being infected and infecting others were also concerns of some nurses (Liu *et al*. 2020:796). Effective communication among staff was also affected by the unfamiliarity of some nurses to the ICU setting and the rapid changes in activities due to the pandemic.

1.1.4 The multidisciplinary team preparedness in a hospital

Nurses form the largest workforce within the healthcare system. They play significant roles in the management of all kinds of disasters, both epidemics and pandemics. They deliver care directly to affected patients and families in close physical proximity. In disaster responses, this cadre of healthcare providers assume multiple roles to help reduce the disaster risk, manage, carry out medical rescue and restore physical, psychological and social health (Al Thobaity and Alshammari 2020:87-92; Labrague *et al.* 2018:49). Some of these roles are within and also outside the capacity and experiences of certain category of nurses. Certain infectious disease disasters such as COVID-19 require special intensive care training, including technical respiratory devices, administration of specific controlled medication and constant infection control measures.

Several research studies (Labrague *et al.* 2016; Labrague *et al.* 2018; Whetzel *et al.* 2013) have been conducted internationally to determine nurses' disaster preparedness, core competencies, perceptions and knowledge towards disaster preparedness. Most nurses are not adequately prepared and are not familiar with certain aspects of disaster response and planning, especially large-scale disasters and mass casualties such as pandemics, bioterrorism, or emerging infectious disease

outbreaks. The low confidence level was attributed to inadequate knowledge of disaster planning, lack of supportive training and education for nurses. A study conducted by Yang *et al.* (2010:220) in China, on how nurses responded to the 2008 Wenchuan earthquake, also indicated that nurses were physically and psychologically under-prepared for such a disaster. Participants reported perceived challenges such as working in an unfamiliar working environment, scarce medical supplies and equipment to use and assuming multiple roles that were totally out of their experience in a hospital setting.

In the event of COVID-19, Al Thobaity and Alshammari (2020:87-92) found that the healthcare systems are not adequately prepared for the pandemic. There is a reported lack of critical care resources, staff shortages, shortage of ICU beds and inadequate intensive care capacity. The lack of public health emergency systems across many countries and the lack of manpower and resource planning at the initial phase of the outbreak also affected the multidisciplinary level of preparedness (Chan 2020:283). Early education and training are crucial for healthcare providers during any disease outbreak (Al-Omari *et al.* 2020:4). However, this is difficult to conduct during a pandemic where multiple lives and properties are affected. For instance, infection control procedures and the use of PPEs are vital for ICU and non-ICU staff during the COVID-19 pandemic.

In South Africa, the situation of disaster preparedness among nurses is not different. The majority of nurses are inadequately prepared for disaster responses and management. Studies conducted in a central public hospital in Johannesburg on disaster preparedness among professional nurses indicated that nurses are not adequately prepared for disasters (Vaughan 2019: 58). Most of the nurses were aware of the existence of disaster protocols, but few had read them. The outbreak of COVID-19 has also affected the South African healthcare system, placed a greater strain on healthcare providers such as nurses, and further heightened the need for intensive care services.

South Africa recorded the first COVID-19 case in March 2020. According to the COVID-19 South African Online Portal (2021), over 1.5 million cases had been recorded with 53, 575 deaths as of 19 April 2021. During the height of the COVID-19 pandemic, the number of patients that required ventilator support outnumbered the available intensive care unit (ICU) beds in the various academic hospitals. In some hospital, available beds in acute care settings were rapidly converted to ICU beds. Certain general hospitals were temporary converted to provide urgent intensive care services. The situation also required a quick healthcare system transformation and re-allocation of many staff, especially non-critical care nurses, to work in different hospitals and technical areas such as the ICU, that they had not received formal training or had previous experience. Certain type of nurses, nursing students and other healthcare professionals who do not typically work in the intensive care environment were also deployed to meet the urgent healthcare demands and fill the staff shortages. This brought the crisis intervention strategies of the health care organisations under scrutiny and raised concerns of the skill and performance of those caring for patients in the ICU.

The need to explore nurses', as the frontline workers, experiences regarding the preparedness and management of COVID-19 has heightened over the past months. A study aimed at exploring the experiences of South African non-critical care nurses that were deployed to the ICU during the COVID-19 pandemic will be essential for better development, preparedness, and response measures for future pandemics.

1.2 PROBLEM STATEMENT

Working in departments such as ICUs need special training to deliver competent care with confidence. The critical shortage of ICU trained nurses in South Africa has allowed the healthcare system to rely on professional nurses and other non-critical trained care nurses for service delivery in the ICUs (de Beer, Brysiewicz and Bhengu 2011: 6). According to a South African Nursing Council [SANC] recent position statement, it was

indicated that nurse specialists must manage all specialised units such as the ICUs (SANC 2021).

South Africa, just like other countries, has been greatly affected by the COVID-19 pandemic. South African nurses appear to be inadequately prepared for disaster response and management (Messe 2020: 57; Vaughan 2019: 58). Due to the nature of the COVID-19 outbreak and the subsequent management plans, non-specialist nurses were deployed to the ICU to assist with patient care and help manage the outbreak. The overwhelmed South African healthcare systems were not adequately prepared in terms of staffing, equipment and disaster planning. This led to professional nurses and other non-critical care nurses being placed into the various ICUs, to control sophisticated therapeutic machines, and assume multiple roles that were totally out of their scope of practice. This measure, although, useful to curtail the effect of the pandemic, was not in line with SANC's position statement as cited earlier. Nurses deployed to the various ICUs had not undergone any form of ICU training prior to their deployment. Therefore, they required direct supervision which was not possible during the pandemic. The deployment may have been necessary as a contingency plan to control the COVID-19, but the lack of training and skill on the part of the nurse was an equal risk to the care and survival of the patient (Al Thobaity and Alshammari 2020:87-92).

The pandemic crisis saw the deployment of available nursing staff to acute care and critical care settings to ensure delivery of care during the precipitous hospitalisation of patients with COVID-19, and the current debate on COVID-19 has spurred much scholarly insight on nurses as front liners in this pandemic. However, there appears to be minimal research on the experiences specifically of non-critically trained nurses deployed to work in the ICUs during the COVID-19 pandemic.

1.3 AIM OF THE STUDY

The aim of the study was to describe the experiences of non-critical care trained nurses deployed to work in the ICUs during the COVID-19 pandemic in a private hospital in the KwaZulu-Natal region.

1.4 OBJECTIVES OF THE STUDY

The objectives of the study were:

- To explore the experiences of non-critical care-trained nurses, working in disaster-zoned areas such as the ICUs, during the COVID-19 pandemic.
- To establish the level of their preparedness of non-critical care trained nurses that were deployed tow work in ICUs
- To recommend strategies to assist with staffing preparedness in an ICU environment for future disaster management contingency planning.

1.5 RESEARCH QUESTION

The study was guided by the following research questions:

Main research question:

- What are the experiences of non-critical care trained professional nurses deployed into the intensive care units during the COVID-19 pandemic?

Specific research questions

- To what extent does General Nurse Training prepare a professional nurse to work in the ICU environment?
- How equipped is a non-critical trained nurse to function in an ICU during the pandemic and what impact does this have on his/her role functioning?

- How can hospital management strategise to overcome staffing as a resource in an ICU, specifically during crisis intervention?
- What are the required training needs of staff that are to be deployed to an ICU?

1.6 SIGNIFICANCE OF THE STUDY

The findings from this study will help understand the multiple roles professional and non-critical care nurses assume during epidemics and pandemics, their expressed perspectives on the level of disaster response and management. The study findings will also highlight the education and training received during the COVID-19 pandemic and the challenges faced along the period. This will be useful for developing interventions to assist in the training and education of nurses on disaster preparedness and management. The findings will also guide the healthcare systems to improve institutional and administrative areas that will help improve future public health emergencies.

1.7 OUTLINE OF THE DISSERTATION

The table below presents the outline of the dissertation.

Table 1.1: Outline of the dissertation

CHAPTER	TITLE	OUTLINE
1	Overview of the study	Introduces and provides an overview of the study by identifying the topic of enquiry, research questions, and study aims. Background information on nurses' disaster preparedness is provided in order to highlight the importance of the topic and justify this study
2	Literature review	Analysis of existing literature and evidence serves to inform the study's focus and design. Literature reviewed highlights such issues overview and types of disaster, disaster management etc.
3	Theoretical framework	Presents the theoretical framework that guided this study.
4	Research methodology	Provides a detailed description of the study methodology with the rationale for the research design and methodological selection, implementation strategies and ethical considerations. The study population, sample, data collection and data analysis methods are described in detail.
5	Presentation of findings	Presents the results of qualitative data using thematic analysis. Key findings include and elaborate on the themes and sub themes.
6	Discussion of findings	Discusses the findings of the study in relation to disaster preparedness by reviewing and interpreting data obtained.
7	Conclusions, limitations and recommendations	Conclusions drawn from the findings are presented, the limitations and strengths of the study are identified in this chapter. Recommendations are made in relation to the key findings of the study.

1.8 SUMMARY OF THE STUDY

Chapter 1 provided an overview of the study by identifying the topic of inquiry, research questions and study aims. Background information regarding COVID-19 preparedness among nurses and their perspectives on the level of disaster preparedness were provided to highlight and justify the importance of the topic. Chapter 2 will discuss a review of relevant literature pertaining to disaster, disaster preparedness, nurses' role and nurses' disaster competencies, and the challenges faced during the COVID-19 pandemic.

CHAPTER 2: LITERATURE REVIEW

2.1 INTRODUCTION

This chapter presents the literature reviewed for the study. A literature review is an organised written presentation of what has been published on a chosen topic or subject of interest. Grove, Gray and Burns (2015: 163) stated that a literature review helps the researcher be aware of the existing body of scientific knowledge on a topic under study and synthesise it into a summary and present it in an organised manner.

2.2 AN OVERVIEW AND TYPES OF DISASTERS

The term 'disaster' has been defined in numerous ways in the literature by different international organisations. Despite the numerous definitions, they all have common concepts in their definitions: environmental destruction, loss of lives and properties and exceeding the affected community's ability to cope. The International Federation of Red Cross and Red Crescent Societies [IFRC] (2021, p.1) defines a disaster as *"a sudden, calamitous event that seriously disrupts the functioning of a community or society and causes human, material, and economic or environmental losses that exceed the community's or society's ability to cope using its own resources*". Such an event is often of greater magnitude than an emergency, pose threats to public health and disrupts essential services such as transportation, communications and housing; and warrant an extraordinary response from outside the affected community (Bella Magnaye *et al*. 2011:271).

Disasters can be divided into categories that describe the event and the potential consequences of an incident. Disasters can also be natural or human-made (whether intentional or unintentional). The IFRC (2021:1) defines natural disasters as "naturally occurring physical phenomena caused either by rapid or slow onset events that have immediate impacts on human health and secondary impacts causing further death and suffering*"*. These disasters can be classified as climatological such as extreme

temperatures, drought and wildfires; meteorological such as cyclones and storms/wave surges; geophysical such as earthquakes, landslides, tsunamis and volcanic activity; hydrological such as avalanches and floods; and meteorological such as cyclones and storms/wave surges. Man-made disasters, as viewed by the IFRC (2021:1), are caused by humans that occur in or close to human settlements, often caused by environmental or technological changes emergencies. This can include environmental degradation, pollution, and accidents (for example, industrial, technological and transport usually involving the production, use or transport of hazardous materials). Another way of categorising disasters is by whether or not it involves an infectious disease. Infectious disease disasters include any event that involves a biological agent or disease such as a pandemic, bioterrorism, or outbreak of an emerging infectious disease. Non-infectious disease disasters include all-natural and human-made events that do not have an infectious agent as the source of the incident, such as a tornado, bridge collapse or flood.

According to the World Disaster Report (2020:10), over 97 million people were affected by various forms of disasters in 2019. These disasters included disease outbreak, storms, drought, earthquakes, heatwaves, wildfires and floods. The report further indicates that 308 disasters were triggered by a natural hazard, particularly climate or weather-related that represented 77% of the natural hazards. To mention some of these disasters are wildfires in Australia, heatwaves in Western Europe, floods in Paraguay, drought in Afghanistan, Hurricane Dorian in Bahamas and United States of America (USA), Typhoons Faxai and Hagibis in Japan and cyclones Kammuri and Phanfone in the Philippines. These forms of disasters have affected many lives and properties across the affected communities and countries. The most recent one is the COVID-19 that took the world by surprise and has affected many lives across the globe over the past months.

2.4 DISASTER MANAGEMENT

The International Federation of Red Cross and Red Crescent Societies define disaster management as "the organisation and management of resources and responsibilities for dealing with all the humanitarian aspects of emergencies, particularly preparedness, response, and recovery to lessen disasters' impacts" (IFRC 2022, p.1). The definition further includes how we deal with the environmental, economic, human, material impact of the said disaster, how we prepare for, respond to and learn from the effects of major failures (IFRC 2022, p.1).

Several models have been proposed for disaster management by researchers, agencies and organisations (Nojavan, Salehi and Omidvar 2018:4). Amongst them are the Logical model, Integrated model, Cause model and Cuny model. Moe and Pathranarakul (2006:398) also described two approaches to disaster management: proactive and reactive. The proactive approach refers to activities planned and conducted ahead of the disaster occurrence to minimise the adverse impacts. In contrast, the reactive approach covers the activities of response and recovery conducted. The overarching goal of disaster management using any of the models and approaches is to mitigate the risk and build communities and organisations' capacities to deal with a disaster of any form.

The phases of disaster management are also described in relation to the Federal Emergency Management Agency (FEMA). The emergency management model visually depicts the timeline and process of facility or community preparation for disasters (FEMA, 2011:32-45). The four related phases of disaster management are Mitigation, Preparedness, Response and Recovery. These disaster management phases do not always work in isolation or in this precise manner. Often the cycles overlap, and the length of each phase depends on the severity of the disaster.

a) Mitigation

Mitigation involves implementing sustained activities to prevent or minimise the negative impact of an event, such as elevating houses in high-risk areas from flooding and minimising the effects of a disaster (Disaster medicine, 2020:p.1). Examples include building codes and zoning; vulnerability analyses and public education.

b) Preparedness

Disaster preparedness refers to all the measures taken to prepare for disasters and prevent or minimise the effects of disasters, either natural or man-made (International Federation of Red Cross and Red Crescent Societies, 2022). This is achieved through effective planning and research. The reason is to predict regions or areas that may be at risk and put forward appropriate measures to prevent them from occurring and reduce the impact those disasters may have on the vulnerable populations. Disaster preparedness is all about planning with risk measures to save lives and livelihoods during any disaster situation and enable the affected population to get back to normalcy within the shortest possible time. Examples of measures to be taken in the preparedness phase include developing a disaster plan and staff education on the plan and their role in the plan.

c) Response

Disaster response refers to the provision of public assistance and emergency services during or immediately after a disaster. The response also includes the activities that deal with the short-term effects of a disaster. These measures or activities are intended to reduce the health impacts, ensure public safety, save lives, and meet the affected population's basic needs. The focus is predominantly on immediate and short-term needs. Examples include search and rescue from immediate danger and stabilising survivors' physical and emotional conditions and emergency reliefs.

d) Recovery

Recovery, the last phase of the model consists of interventions needed to return a facility to its pre-disaster baseline as soon as possible. Disaster recovery includes rebuilding infrastructures such as schools and developing policies for the future.

2.4 NURSES' DISASTER MANAGEMENT COMPETENCIES

Nurses' level of competency in disaster management is vital in dealing with a disastrous situation. Loke and Fung (2014:3290) define competency as a combination of behaviours, abilities, knowledge and skills to perform a specific task. Nurses form the largest group of committed healthcare providers that often play vital roles when disaster strikes. This cadre of healthcare professionals serve as first respondents, coordinators of care and services, triage and care for disaster victims and provide the needed information or education (International Council of Nurses, ICN, 2019, p.4-6).

Numerous studies (Loke and Fung 2014:3294; Taskiran and Baykal 2019: 166) have explored nurses' perceptions of disaster care core competencies. Nurses in Hong Kong, for example, perceived disaster nursing competencies as grossly inadequate. The majority of nurses neglected the ethical and legal competencies for disaster nursing (Loke and Fung 2014: 3299). Similarly, in Turkey, nurses considered themselves inadequately competent in disaster core competencies and had insufficient disaster experiences (Taskiran and Baykal 2019:172). This further indicated the urgent need to develop comprehensive disaster nursing core competencies for the various communities they served.

Due to the complex nature of disasters, nurses require special competencies to deal with disastrous situations for the public's health. Several authors (Al Thobaity, Plummer and Williams 2017:69; Loke and Fung 2014: 3301) have recommended establishing a set of tailor-made disaster core competencies as a first step to prepare this cadre of

healthcare professionals to deal with any disaster and its adverse effect on the population. Therefore, the International Council of Nurses (ICN, 2019) has recognised the urgent need to build nurses capacities at all levels to limit injuries and deaths, safeguard victims and maintain the well-being of the community amid health threats and disasters. This initiative has led to the publication of a framework of disaster core competencies. The framework developed in 2009 and upgraded in 2019, contains an original set of disaster nursing competencies organised into four areas and eight domains. The four primary areas of disaster nursing competencies include disaster mitigation or prevention, preparedness, response and recovery or rehabilitation. The eight domains of competencies listed under the framework are preparation and planning, communication, incident management systems, safety and security, assessment, intervention, recovery, and law and ethics (International Council of Nurses 2019) as indicated in table 2.1. At every level of nursing practice, nurses are expected to perform and exhibit some level of competencies. This makes the disaster nursing competencies framework a useful framework in the management of any form of disaster.

Table 2.1: Disaster competency domain and related nursing actions)

Domains	Nursing actions
1	Preparation and planning (actions taken apart from any specific emergency to increase readiness and confidence in actions to be taken during an event)
2	Communication (approaches to conveying essential information within one's place of work or emergency assignment and documenting decisions made)
3	Incident management systems (the structure of disaster/emergency response required by countries/organisations/institutions and actions to make them effective)
4	Safety and security (assuring that nurses, their colleagues and patients do not add to the burden of response by unsafe practices)
5	Assessment (gathering data about assigned patients/families/communities on which to base subsequent nursing actions)
6	Intervention (clinical or other actions taken in response to assessment of patients/families/communities within the incident management of the disaster event)
7	Recovery (any steps taken to facilitate resumption of pre-event individual/family/community/organisation functioning or moving it to a higher level)
8	Law and Ethics (the legal and ethical framework for disaster/emergency nursing)

Source: Core Competencies in Disaster Nursing Version 2 International Council of Nurses (2019). https://www.icn.ch/sites/default/files/inline-files/ICN_Disaster-Comp-Report_WEB.pdf

Numerous empirical literatures also agree that nurses require certain special skills and knowledge to carry certain tasks related to disaster management (Al Thobaity, Plummer and Williams 2017:64-71; Marin and Witt 2015:551). Most of these findings are consistent with the eight domains of competencies indicated in the International Council of Nurses' Framework 2019 version. Al Thobaity, Plummer and Williams. (2017:64-71) conducted a scoping review to identify the most common domains of the core competencies of disaster nursing. The most common domains were

communication, planning, decontamination and safety, the incident command system and ethics.

2.5 NURSES ROLE IN DISASTER MANAGEMENT

Nurses form the largest workforce within the healthcare system. They play significant roles in the management of all kinds of disasters, both epidemics and pandemics. They deliver care directly to affected patients and families in close physical proximity. In disaster response, this cadre of healthcare providers assumes multiple roles to help reduce the risk of the disaster, manage, carry out medical rescue and restore physical, psychological and social health (Al Thobaity and Alshammari 2020:87-92; Labrague *et al.* 2018:48).

At every phase of disaster management, nurses play vital roles in preparing for a disaster, responding and recovering from the effect of the said disaster. Some of their roles reported in the literature include planning, education, training, drills and creating guidelines (Al Thobaity, Plummer and Williams 2017:64-71). Bella Magnaye *et al*. (2011:45), in a quantitative study, also added that in disaster management, nurses' triage coordinates the first aid response team and direct hands-on care to victims of the emergency. Roles such as compassionate and quality care for victims regardless of age, sex and gender were also mentioned. The fundamental role at all times is to promote health, facilitate healing and alleviate suffering.

2.6 NURSES KNOWLEDGE AND PERCEIVED LEVEL OF DISASTER PREPAREDNESS

Several research studies have been conducted internationally to determine nurses' disaster perceptions and knowledge towards disaster preparedness (Labrague *et al.* 2016: 99; Labrague *et al.* 2018:43). The majority of nurses are not adequately prepared and are not familiar with certain aspects of disaster response and planning, especially

large-scale disasters and mass casualties such as pandemics, bioterrorism or an emerging infectious disease outbreak. A recent systematic review focused on nurses' preparedness for disaster response found that nurses feel less confident to plan and respond to a disaster (Labrague *et al.* 2018: 50). The low confidence level was attributed to inadequate knowledge of disaster planning, no supportive training and education for nurses. A study conducted by Yang *et al.* (2010:219) in China, on how nurses acted in response to the 2008 Wenchuan earthquake, also indicated that nurses were physically and psychologically under-prepared for such a disaster. Participants reported perceived challenges such as working in an unfamiliar working environment, scarce medical supplies and equipment to use and assuming multiple roles that were totally out of their experience in a hospital setting. Similar findings were reported in studies on nurses' experiences during disaster response, conducted by Hammad *et al.* (2018:36-41) in Australia and Li *et al.* (2015:45) in China. The same studies noted that nurses responded to disasters with shock and disbelief and are under-prepared educationally and psychologically.

In a quantitative study conducted in the Philippines, Labrague *et al* (2016:102) also found that nurses were neither adequately prepared for disaster nor familiar with institutional disaster management protocols. A higher percentage of nurses (80%) were not fully prepared for disasters. Saudi Arabian nurses had moderate knowledge about disaster preparedness; however, they perceived themselves not well-prepared to manage disasters (Al Thobaity *et al.* 2015:160). In another study among nurses in Hong Kong, most participants knew of the existing protocols in their workplace, but only 39% had read the protocol (Fung, Loke and Lai 2008:699). Similarly, 58% of Jordanian nurses were not familiar with the disaster protocols in their workplace. Even those familiar with the disaster protocols had no confidence in carrying out the plans (Al Khalaileh, Bond and Alasad 2012:20). A higher percentage (87%) of nurses in Australia knew about the existence of a disaster plan in their respective institutions; while 42% had not read it at all (Duong 2009:89).

In South Africa, the situation is not different from that reported in the existing research literature. The majority of nurses are equally inadequately prepared for disaster response and management. Studies conducted in a central public hospital in Johannesburg on disaster preparedness among professional nurses indicated that nurses are not adequately prepared for disasters (Vaughan 2019:60). Most of the nurses were aware of the existence of disaster protocols, but few had read them.

2.7 CHALLENGES FOR NURSES AND FACTORS AFFECTING LEVEL OF PREPAREDNESS

It has been well established in the literature that nurses are inadequately prepared to manage and respond to a disaster of any form. This is due to many factors, including lack of education and training and lack of exposure to disaster events and drills. Other challenges related to nurses' disaster management were poor planning and leadership; hospital limited capacities, resources and staffing; and hospital level of preparedness (Al Harthi et al., 2020: 2630).

A recent scoping review conducted by Al Harthi, Al Thobaity, Al Ahmari and Almalki (2020:2630) used published studies between 2010 and 2020 and found major barriers facing nurses in disaster management. The major challenges identified were the newness of the disaster nursing speciality, inadequate preparedness, poor formal education, lack of research, ethical and legal issues and unclear roles. Disaster nursing, according to the study, is a new speciality. There are limited experts, limited disaster experiences as a new speciality, few evaluation tools, and opportunities for training. These make it difficult for nurses to acquire the needed skills, expertise and competencies to manage and respond to disasters.

2.8 MEASURES TO IMPROVE DISASTER PREPAREDNESS AND MANAGEMENT AMONG NURSES

Several research studies have put forward measure and strategies vital and critical to enhancing nurses' ability to prepare, respond and manage disasters. In a recent study conducted by Taskiran and Baykal (2019:167), nurses considered themselves more competent in some areas of disaster preparedness than in others due to insufficient educational opportunities. The authors recommended the need to revise nursing theory and practice in accordance with knowledge and skills in disaster nursing. Regular training programmes and disaster drills, including a mix of tabletop exercises, were also mentioned as a vital measure to increase nurse competences in disaster management. Again, the authors suggested conducting regular evaluation of nurses' disaster core competencies to achieve effective planning and training programmes. The ICN Framework on nurses' disaster core competencies also provides a framework for training and education on disaster management (ICN, 2019).

A study conducted in Indonesia by Martono *et al*. (2019:43) also reported that nurses do not understand their roles during the disaster preparedness phase. The study recommended the use of simulation exercises on disaster preparedness and constant allocation of nursing personnel in disaster areas to improve disaster preparedness and management among nurses. Similarly, Öztekin *et al.* (2016:398) added that the inclusion of disaster preparedness and management in the undergraduate and postgraduate nursing programmes would be an important opportunity to train nurses. Furthermore, developing and finding effective plans, policies and research education about nurses' disaster responses are also important measures (Wenji *et al*. 2015:80). Usher *et al*. (2015:441) also pointed out the need to include disaster nursing knowledge, skills and preparedness activities in all preregistration nurses' courses. These measures will help build the knowledge-base of nurse and enhance confidence in dealing with disasters.

2.9 CORONAVIRUS (COVID-19) AS A PANDEMIC AND THE IMPACT ON HEALTHCARE SYSTEMS, HEALTHCARE AND HEALTHCARE PROVIDERS

Coronavirus Disease (COVID-19), a biological disaster, is an infectious disease caused by the newly discovered coronavirus. It is the first respiratory infectious pandemic since the 1918 influenza which has had a widespread global effect (WHO 2021). The outbreak began in Wuhan (China) at the end of December 2019, but the source was still unclear. The increasing numbers of COVID-19 cases outweighed the healthcare systems capacities of many countries. Due to the uncontrollable growing numbers of cases and spread, the World Health Organisation (WHO) declared the outbreak a pandemic on March 11, 2020 (Director-General Speeches WHO, 2020). The number of confirmed cases is over 600 million and 6 million deaths as of 23 September 2022 (WHO, 2022)

The COVID-19 pandemic and the increasing numbers of cases have had a far-reaching negative impact on healthcare systems worldwide and have placed healthcare and healthcare providers under immense pressure. It also had severe political, economic, social and cultural consequences on human life. In a recent qualitative study conducted by Ardebili *et al*. (2020:551) in Iran, healthcare professionals expressed a wide range of emotions and development during the unfolding of the pandemic. According to the study participants, working in a pandemic era comes with overwhelming workloads, negative feelings, and changes in personal life. At the early phases and peak of the crisis, healthcare providers also experience high levels of stress, fear and anxiety. There is a sense of depression, hopelessness and helplessness.

A review, conducted by Rajkumar (2020:4) on the mental health concerns related to the COVID-19 pandemic, showed that there were significant adverse mental health consequences on healthcare providers and families. There were reported symptoms of anxiety and depression as healthcare providers respond to the COVID-19 pandemic.

Similarly, a study in China also showed a high prevalence of mental health issues among the medical workforce during the pandemic (Lu *et al*. 2020:112934).

The COVID-19 pandemic has taken the healthcare systems and healthcare providers by surprise since its discovery in 2019. Various health institutions and departments did not plan ahead to mitigate, prepare and adequately response to the COVID-19. These include the lack of a public health emergency response system, lack of manpower and resources during the outbreak and lack of anti-epidemic training (Chan 2020:383).

The section below discusses the issue of nurses' shortage and the deployment of certain healthcare professionals to other healthcare departments to curtail the effect of the pandemic.

2.9.1 Nurses shortage and deployment into various care departments

During the initial phase of the COVID-19 outbreak, various healthcare systems worldwide did not have adequate staffing and resource capacity to contain the outbreak. The most reported challenges identified included nurses with intensive care experiences to manage critically ill patients and inadequate machines to provide intensive care. Other challenges were inadequate personal protective equipment for protection, lack of policies and guidelines for infection control and lack of quarantined centres to isolate and manage suspected cases (Chan 2020:384; Nandi 2021:34).
Nurses remain the largest group among the healthcare professionals and comprise half of the global workforce. Drennan and Ross (2019:27), in their review study, highlighted the global shortage of nurses. The COVID-19 pandemic has further heightened the need for nurses globally. The existing nursing workforce is inadequate to manage the COVID-19 outbreak. Again, among the nurses, not all are specially trained to manage critically ill patients on mechanical ventilators in the intensive care environment. The infectious COVID-19 disease demands special education and training to manage infected patients.

Due to the nature of the COVID-19 outbreak and the management plan, some nurses were deployed to the intensive care units to assist with patient care and manage the outbreak. The deployment of these healthcare workers from other specialities to ICUs was seen as an easy way to cope and achieve a sustainable delivery of patient care, provide adequate care and maintain staff well-being (Hettle *et al.* 2020: 41). However, staff deployment comes with adequate education and training of staff (Al-Omari *et al*. 2020:4). Nurses from some units, including outpatient department, theatre, perioperative and acute care nurses, were placed in the ICUs. The nature of intensive care demands that nurses be well-trained in certain medications and equipment such as mechanical ventilators (Chan 2020: 384). The majority of nurses deployed to the ICUs had no previous intensive care training to manage critically ill patients (Al-Omari *et al*. 2020:4; San Juan *et al.* 2021:8). A recent review conducted by Al Thobaity and Alshammari (2020:91) confirmed the critical shortage of nurses when dealing with patients affected by COVID-19. At the peak of the outbreak, other healthcare professionals were called to assist with the outbreak.

In South Africa, the SANC has published a position statement on the placement of specialist nurses into specialised units. Such specialised units include but not limited to the ICU, oncology, renal dialysis unit and the labour ward (SANC, 2021). The position statement highlights the need to have qualified specialist nurses in such specialised units that require relevant training and skills to care for patients. In the ICU, the kind of care needed to support patients goes beyond basic nursing care. Nurses working in such units are expected to be efficient and competent in using highly sophisticated machines such as the ventilators to support patient care. The fast-paced environment also mandates nurses to make quick decisions while providing the best of care. The demands and the kind of care make it important to have qualified critical care trained nurses in an ICU. Professional nurses undergoing specialist training must perform their duties under the direct the supervision of professional specialist nurses in that unit, highlighting the need and importance to have trained nurses for the appropriate unit (SANC, 2021). It should be noted that, the SANC position statement

was in response to the deployment of non-specialist nurses into specialised units such as the ICU. As a governance structure for the training and development of the nursing profession in South Africa, the SANC responded to the plight of the deployment of non-critical care trained nurses into the ICU as a result of the COVID-19 pandemic.

2.9.2 Education and training of healthcare workers for COVID-19

The COVID-19 outbreak was unexpected worldwide. The challenges encountered during the outbreak has been immense on the global population, critical care practice and workforce capacity. Healthcare workers, especially non-critical care trained nurses, were an essential workforce available to augment patient care and minimise the impact of the outbreak on human lives. However, these cadre of healthcare providers had limited education and training on disaster preparedness and management (Al-Omari *et al*. 2020:4), especially for infectious disasters such as COVID-19.

Goh *et al*. (2020:2) stressed the importance of upskilling healthcare workers as one area to ensure workforce sustainability, particularly regarding infection control. Education and re-training in areas such as infection control were seen as effective measures to upskill healthcare workers. Similarly, a case study conducted in Saudi Arabia by Al-Omari *et al.* (2020:4) also highlighted the strategies needed to respond to the predicted increased demands associated with the COVID-19 pandemic. According to the authors, education and training during COVID-19 were essential to provide critical care to patients in the ICU. Training, especially for non-ICU staff, was crucial during the COVID-19 pandemic.

Al Baalharith and Pappiya (2021:2) reported on nurses' knowledge of preparedness and response to the COVID-19 pandemic in Saudi Arabia. The results highlighted that the overall knowledge of COVID-19 preparedness was adequate, but preparedness for PPEs was moderate. The overall knowledge was due to the existence of WHO

guidelines for COVID-19 preparedness. There were also variations among nurses based on screening and recognising cases. In the United States, 87% of nurses were scared to report to work due to the nature of care for affected COVID-19 patients. Only 36% of the nurses reported caring for a positive case despite inadequate PPE (Tener 2020:1). There was an urgent need for education for caring for COVID-19 patients, personal safety, and PPE usage. Overall, the majority of healthcare workers, especially nurses, were inadequately prepared for COVID-19. However, education and training were enhanced as the cases evolved. International health organisations such as WHO and Centre for Disease Control and Prevention (CDC) released guidelines for COVID-preparedness and management to assist the healthcare teams. There were also country-specific approaches to augment the international assistances from WHO and CDC. In South Africa, short courses on COVID-19 were organised for some healthcare professionals. These were measures to support nurses and other healthcare workers to prepare and respond to the COVID-19 pandemic.

Studies have reported that nurses deployed into the ICU are faced with several challenges (Liu *et al*. 2020:790-798; Joo and Liu, 2021:202-213; San Juan *et al*. 2021:1-6). A recent systematic review conducted by Joo and Liu (2021:207) found that nurses are constantly faced with all kinds of emotional and psychological stressors while caring for patients with COVID-19. Nurses deployed to the units are afraid, threatened and feel powerless on daily basis due to the rapid rate of infection and mortality. Some nurses were worried and concerned about the safety of their family members as they could easily transmit the virus to them. Liu *et al.* (2020:794) also highlighted on nurses' high level of uncertainties and fear of being infected or infecting loved ones close to them. Others were overwhelmed by the daily workload and the nature of care for COVID-infected patients. Similarly, San Juan *et al.* (2021:5) also emphasised that the deployment of nurses and working in such an unfamiliar setting was associated with levels of anxiety and stress. Gharaibeh *et al.* (2020:299), in a review, reported that the surge in critically ill patients require continuous monitoring and

ventilator assistance overwhelmed the staff. There was reported challenges in staff communication due to the rapid changes and existing workload.

2.10 SUMMARY OF THE CHAPTER

Disaster has been defined in numerous ways in the literature. Any disaster leads to environmental destruction, loss of lives and properties and often exceed the affected community's capacity to cope. In the management of disaster, the FEMA disaster management phases which include mitigation, preparedness, response and recovery are used to manage a disaster of any form. At each phase, a series of activities are undertaken either to stop the disaster from occurring or manage the disaster. The management of disaster involves and includes a multidisciplinary team that work together to manage the disaster. The nursing workforce represents the largest group in the disaster management team. They play significant roles in the management of all kinds of disasters, both epidemics and pandemics. Their level of competency in disasters is vital in dealing with any disastrous situation. Chapter 3 will present the theoretical framework.

CHAPTER 3: THEORETICAL FRAMEWORK

3.1 INTRODUCTION

This chapter presents the theoretical framework that guided the study. A framework is an abstract, logical structure of meaning that guides the development and organisation of the study and enables the researcher to link the findings to nursing's body of knowledge (Grove, Gray and Burns 2015: 198). The theoretical framework guides the researcher in the interpretation of results and directs the research process. It is a frame of reference that forms the basis for observations, definition of concepts, research designs, interpretations and generalisations (Grove, Gray and Burns 2015: 198). To gain a deeper understanding of the topic under study, the researcher adopted the Relational Model of Crisis Management to foreground non-critical care trained professional nurses deployed to work in the ICU during the COVID-19 pandemic.

3.2 RELATIONAL MODEL OF CRISIS MANAGEMENT

There are numerous models of crisis management in research literature. The study adopted a theoretical framework as a way to understand the experiences of non-critical care professional nurses deployed to work in the ICU during the COVID-19 pandemic in a selected private hospital in KwaZulu Natal. In order to understand a deeper inquiry, the researcher adopted the Relational Model of Crisis Management (Figure 3.1) for this study. This model was proposed by Tony Jaques in 2007. The Relational Model has four primary elements: crisis preparedness, crisis prevention, crisis incident management and post-crisis management. Each of these primary elements has clusters of activities and process. According to Jaques (2007:151), the elements should be seen as clusters of related and integrated disciplines, not as steps to be undertaken in a sequential fashion. That is, the processes and activities often overlap or occur simultaneously such as crisis prevention and preparation. They do not always proceed in one direction.

3.2.1The rationale for this choice of Model to the proposed study

The COVID-19 pandemic is notably a crisis that has affected every level of society across the world. Several public and private health emergency response systems such as hospitals were not adequately prepared for such an outbreak. The inadequate workforce and resources, specifically within the ICUs, led to a delayed provision of definitive care and early responses. The increasing numbers of COVID-19 cases outweighed the medical capacity of many countries, and the declaration of the outbreak as a pandemic necessitated emergency responses and contingency plans to be put in place, at the global, national, regional and local levels. This disruption of health service delivery, in many sectors, including the ICUs forced nursing organisations to adapt, mitigate risks and re-adjust the way in which services were delivered as a crisis intervention measure.

The deployment of non-critical care trained nurses and other professional nurses into the ICUs was seen as a contingency plan during the peaks of the COVID-19 pandemic. In the management of crisis such as the COVID-19 pandemic, training of staff, disaster simulation, planning, emergency response among others is important at the pre-crisis and post-crisis management stages. Unfortunately, the crisis or the pandemic was sudden and unexpected. In an effective crisis management, Jaques (2007) reports that crisis preparedness, crisis prevention, crisis event management and post-crisis management is useful in managing crisis effectively. This also can be said that for nurses deployed into the ICU to effectively manage a crisis, they should have been well prepared pre-crisis. The researcher, therefore, sees the model (Figure 3.1) as a useful one to guide the study and also explore the experiences of non-critical care trained nurses deployed to work in the ICUs during the COVID-19 pandemic.

The model comprises four major elements: crisis preparedness, crisis prevention, crisis incident management and post-crisis management. Each element is built around clusters of activities and processes. These are discussed in the sections below:

3.2.1.1 Crisis preparedness

The cluster of activities under crisis preparedness included planning processes, systems, manuals, training and simulations.

- Planning processes: This includes putting plans in place, assigning roles and responsibilities and establishing process ownership. This section requires senior management to be committed to planning.
- Systems, manuals: This includes crisis management infrastructure, equipment, resources and documentation. The systems also include crisis team selection and training, reporting and authority line, pre-prepared materials, system activation, functional check-list, stakeholder communication, centralised crisis management centres and media relations.
- Training and simulations: This includes familiarisation programmes, testing, table-top exercises and live simulations. These are all measures to equip the staff for crisis management. Other activities are simple fire drills and full-scale simulated chemical spills or fatal accidents (Jaques 2007: 152).

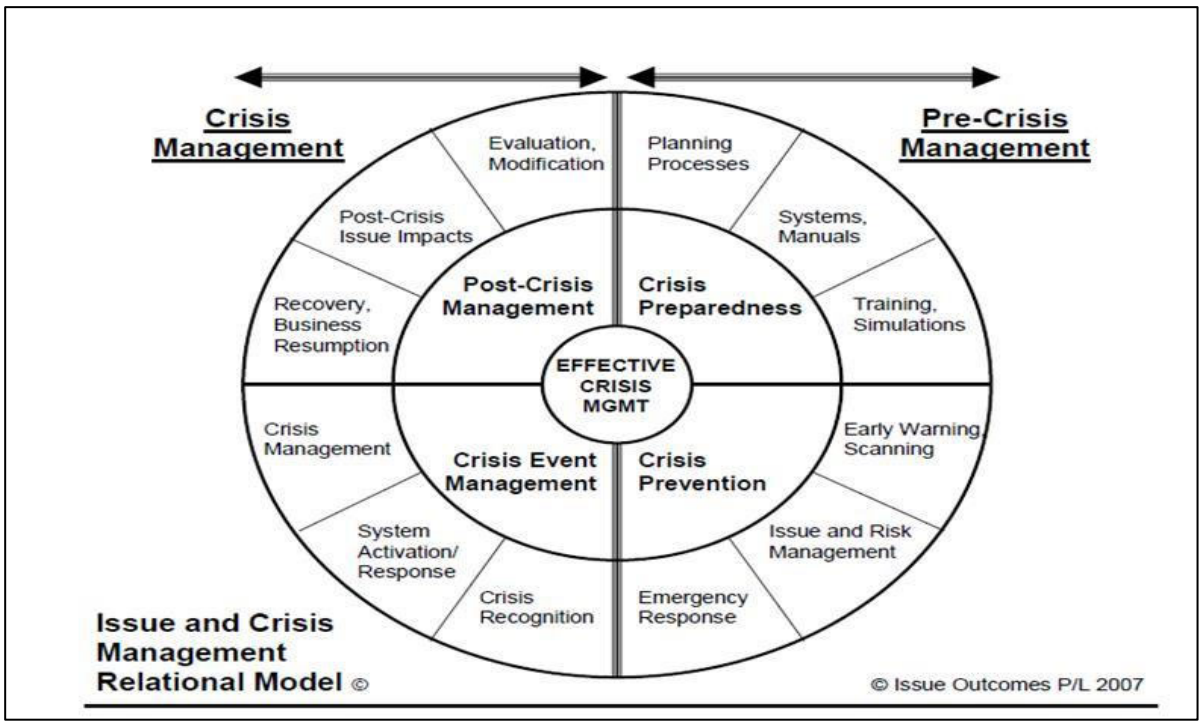

Figure 3.1: Issues and Crisis Management Relational Model (Jaques 2007: 150)

3.2.1.2 Crisis prevention

The cluster of activities under crisis prevention include: early warning, scanning, issue and risk management and emergency response.

- Early warning and scanning: This includes processes such as audits, preventive maintenance, issue scanning, social forecasting, environmental scanning, anticipatory management and future studies.
- Issue and risk management: This includes identification, prioritisation, strategy development and implementation. Early warning and scanning, plus the identification and prioritisation phase of issue and risk management overlap and depend fundamentally on management recognising the need for action.
- Emergency response: This includes infrastructure, documentation and training to handle the crisis (Jaques 2007: 152).

3.2.1.3 Crisis incident management

The cluster of activities under crisis incident management are crisis recognition, system activations/ response and crisis management.

- Crisis recognition: This includes the transition from emergency, objective assessment and early recognition. To be able to recognise crisis following an emergency and plan towards early response.
- Systems activations / response: Crisis recognition is followed by effectively and rapidly activating response systems. This includes the activation process, effective mechanisms for call out, availability of backups and systems redundancy.
- Crisis management: Managing the crisis itself which includes strategy selection and implementation, damage mitigation, stakeholder management and media response (Jaques 2007: 153).

3.2.1.4 Post-crisis management

The cluster of activities under post-crisis management includes recovery, business resumption, post-crisis issue impacts, evaluation and modification.

- Recovery and business resumption: After the crisis there is the move to resume usual business. This includes operational recovery, financial costs, market retention, business momentum and share price protection.
- Post-crisis issue impacts: This includes judicial inquiries, litigation, reputational damage, media scrutiny and coronial request.

- Evaluation and modification: This includes root cause analysis, management assessment, process review and implementation of change (Jaques 2007: 154).

3.3 APPLICATION OF THE RELATIONAL MODEL OF CRISIS MANAGEMENT TO THE STUDY

A theoretical framework guides the researcher in the interpretation of the results and the research process. The proposed model of crisis management guided the presentation of results from participants. The model under the headings: crisis preparedness, crisis prevention, crisis incident management and post-crisis management overlap and sometimes occur simultaneously. At the data collection stage, the model guided the formulation of the interview guide questions and the probing questions. In this study, results data also gathered from participants were categorised according to the model: crisis preparedness, crisis prevention, crisis management and post-crisis management. This formed the basis for interpreting the findings.

The model was seen as useful to explore the experiences of non-critical care trained nurses deployed into the ICU. The framework helped to find out their experiences on the how they were prepared for the pandemic, how they managed during the crisis and even their perspectives after the peak moments went down. In this study, the model was vital to probe and ask questions on COVID-19 preparedness, management of the COVID-19 affected patients, the in-service training that were conducted during the period and how the nurses felt while caring for the patients.

3.3.1 Crisis preparedness

Crisis preparedness is an early stage of crisis management. It includes the cluster of activities that involves all the planning and preparations processes undertaken before the disaster occurs. In this study, crisis preparedness includes disaster protocols, systems, education and training put in place to handle the current pandemic. Data findings from the individual interviews that relate to planning and preparing for the COVID-19 pandemic, plans put in place for managing personnel in an ICU environment were explored, the assigning of roles, and the training and management of staff was categorised under the heading crisis preparedness.

3.3.2 Crisis prevention

Crisis prevention, as applied to the study involved the cluster of activities that are put in place to prevent the disaster. This includes early identification of the challenges or risks to ICU staff, patients and environment, prioritising and developing strategies to handle the staffing crisis as a result of a disaster. All data related to crisis prevention was categorised under this heading.

3.3.3 Crisis incident management

Crisis incident management focuses on the recognition of the crisis, systems response and the management of the crisis. In this study, this was the disaster management team, their quick response to the disaster management and the measure put in place to manage the disaster itself. In COVID-19, this refers to the measures such as isolation, quarantine of infected patients, and management of the damage caused by the pandemic. Again, this also refers to the attempts made to prevent the crisis developing into a greater disaster.

Crisis incident management focuses on the recognition of future risks, systems responses and the management of these risks. In the study, the response to a crisis like the pandemic in relation to staff deployment was critically examined and recommendations were suggested stemming from participants' responses.

3.3.4 Post-crisis management

This phase includes efforts made by the affected institution to recover from the damage caused by the disaster and resume back to normal activities. In this study, this refers to the cluster of activities undertaken by the health facilities and healthcare professionals to manage future disasters, account for the damage caused in terms of deaths and infected persons, the loss to the facility and the measures to instil confidence. In the study, actual perspectives from participants who were deployed to work in ICUs during the pandemic disaster were critically analysed for early risk management.

3.4 SUMMARY OF THE CHAPTER

The chapter presented a detailed explanation of the theoretical framework that was used to guide the study. The application of the framework in the study was also discussed. Chapter 4 will describe the research design and methodology used in the study.

CHAPTER 4: RESEARCH DESIGN AND METHODOLOGY

4.1 INTRODUCTION

The chapter describes qualitative research and justifies the research approach used to achieve the purpose of the study. These include the research approach, research setting; study population; sampling process, pre-testing procedure, data collection, measures to trustworthiness and ethical considerations. The chapter also presents the theoretical framework that was used to guide the study.

4.2 RESEARCH DESIGN

A research design is a systematic plan and process used by a researcher to conduct research and obtain answers to a research question (Polit and Beck 2017: 53). It provides a clearly defined structure on how data will be collected, comparisons that will be made and where the study will take place (Gray, Grove and Burns 2015: 65). A qualitative, descriptive research design was used to explore the experiences of non-critical care trained nurses deployed to work in the ICU during the COVID-19 pandemic in a private hospital in the KwaZulu-Natal region. A descriptive design explores phenomena in the actual situation they occur and helps to bring new meanings to the situations. It offers researchers the opportunity to interpret and get a deeper meaning of a phenomenon and present them comprehensively.

4.2.1 Qualitative research

Qualitative research is a systematic approach used to explore the feelings experiences and situations from the perspective of the person in the situation (Grove, Gray and Burns 2015: 67). This type of research enables the researcher to analyse the words of participants from the interpretive approach, find meaning in their words and describe their experiences to gain deeper understanding of the experience. The qualitative research approach provides an appropriate approach to

understanding how others feel or think, human or societal issue, and explore how people understand their life and society in which they live (Polit and Beck 2017:264).

For this study, qualitative research was used explore the experiences of COVID-19 preparedness from the perspective of the nurses involved in the COVID-19 pandemic. The approach allowed participants to express their narratives in-depth. The types of qualitative research approaches used include phenomenology, grounded theory, ethnography, exploratory-descriptive qualitative research and historical research (Grove, Gray and Burns 2015: 68). This study used the exploratory-descriptive research approach.

4.2.2 Explorative research

Exploratory research design is used to explain the full nature of a subject that is not well understood and little is known. The design helps to get a detailed insight into a subject and familiarise with the people, and situation to identify a problem (Polit and Beck 2017:15). In this study, the explorative approach was appropriate as there is lack of basic information on the area of interest and nurses' preparedness to COVID-19 is a new area.

4.2.3 Descriptive research

Descriptive research study also explores and describes a phenomenon in the actual situation that occurs and bring meaning to the situations (Polit and Beck 2017: 726). The researcher gets the opportunity to interpret, understand phenomena and present them appropriately. The results from descriptive qualitative research appear to be closer to the data than any other qualitative approaches. This approach was best suited to this study as it gives a clearer picture of the nurses' detailed perspectives or experiences in the actual setting where COVID-19 management occurs. The design is not dependent on a specific qualitative tradition, instead describes the subject through a naturalistic inquiry (Polit and Beck 2017: 726).

4.3 STUDY SETTING

According to Polit and Beck (2017: 744), the study setting is anywhere a research study is conducted or a place information is collected. The study was conducted in a private hospital in the KwaZulu-Natal region. The hospital is situated in the central district in Pietermaritzburg. The hospital serves the following catchment areas: Pietermaritzburg, Howick, Greytown, Richmond, Ladysmith, Newcastle, Ixopo, Midlands, Kokstad, Estcourt, Mooiriver, Dundee, Underberg, Hilton and Vryheid. It serves a population of approximately 3 million and has 233 beds and a staff complement of 274 nurses. The hospital offers a full package of health services namely medical, orthopaedics, Neurosurgery, Ear, Nose and Throat, plastic surgery, Maxillofacial surgery, Neonatal, paediatrics, cardio thoracic, general surgery, maternity, ICU and trauma. The hospital has two ICUs, with 24 ICU beds. The ICU has a staff complement of 53 nurses of all categories of which only 10 are ICU trained nurses. During the COVID-19 pandemic, both ICUs were full to capacity with a high patient acuity. This meant that at times, all 24 beds had ventilated patients with a very high patient admission and turnover, due to the many deaths on an hourly basis.

4.4. POPULATION AND SAMPLING

4.4.1 Population

The population refers to individuals with common characteristics that the researcher intends to study (Grove, Gray and Burns 2015: 250). Target population is also the set of individuals who meet the sampling criteria. The target population was non-critical care trained professional nurses deployed from acute care settings and other departments of the hospital to the ICU during the COVID-19 pandemic.

4.4.2 Sample and sampling method

A sample is a part of the entire population the researcher is interested in working with (Polit and Beck 2017:743). In a qualitative study, the sample size is based on the informational needs and also guided by data saturation where no new information is obtained from the participants' (Polit and Beck 2017:497). In this study, the sample size was determined at data saturation level, where no new information is obtained from research participants. Sampling refers to the process

of selecting the sample from a population the researcher intends to obtain information regarding a phenomenon in a way that represents the population of interest (Grove, Gray and Burns 2015: 67). A purposive sampling technique was used to select a minimum sample of 10 nurses. The sampling technique allows for selection of nurses with the experiences of the subject of interest.

Inclusion criteria

- Non-critical care nursing staff that were deployed from other departments within the hospital to work in the ICU during the COVID-19 pandemic.
- Participants who can communicate effectively in English.

Exclusion criteria

- Permanently employed critical care trained staff working in the ICU.

4.5 DATA COLLECTION

Data collection refers to the gathering of information to address a research problem (Polit and Beck 2017: 725). The preferred mode of data collection in qualitative studies is interviewing of participants (Grove, Gray and Burns 2015:83). A semi-structured interview guide was used to collect data (refer to Appendix 5b).

4.5.1 Semi-structured interviews

Semi-structured interviews were used to gather needed information from the research participants. This type of interview allows for the conduction of research face-to-face with the participants. Interviews are used to investigate the views, experiences, beliefs and motivations of individual participants. Semi-structured interviews employ the use of an interview schedule which contains structured and explicit questions that do not allow room for veering off the topic in question. Interviewers pose the same exactly worded questions in the same order to interviewees (Grove, Gray and Burns 2015:84). A face-to-face interview conversation between participant and researcher is the most commonly used strategy for collecting data.

This type of interview involves a set of pre-set questions which initiate the discussion. It allows for more flexibility during data collection. Therefore, it is an appropriate type of data collection for most qualitative designs and can be implemented using different interview formats such as semi-structured and unstructured. An interview schedule was drawn up with structured questions that was used to solicit data based on the research question.

Each participant interviewed was assured conditions of anonymity and the purpose and the intent of the interview process was explained to the participants. They were assured that the data collected will not reveal any of their identities.

4.5.2 Data collection procedure

After provisional ethical clearance was obtained from the Durban University of Technology's (DUT) Institutional Research Ethics Committee (IREC), gatekeeper permission was sought from the ethics committee of the participating hospital to conduct research at the study site and with the proposed participants. The researcher set up a meeting with the Hospital Manager of the participating hospital to provide the letter requesting gatekeeper permission (Appendix 2a), the letter of provisional ethical clearance from DUT/IREC, a copy of the research proposal and its relevant appendices. On receipt of gatekeeper permission from the participating hospital and only after full ethical clearance was received from IREC (Appendix 1), the researcher then approached the participants to arrange for data collection sessions. Once the researcher obtained permission from the participating hospital, staff that met the study criteria were approached to participate in the interviews during normal working hours, without disrupting daily work operations or work time. All participants were informed about the study prior to commencement and given an opportunity to read the information letter (Appendix 3) and provide written consent to participate in the study. Once informed consent (Appendix 4) was obtained, the researcher scheduled interviews at a time that was convenient for the participants. In addition, no other persons except the researcher and interviewee were allowed into the designated interview area, which lasted for approximately 20 to 30 minutes. Strict COVID-19 protocols such as maintaining a social distancing of 1.5 metres between interviewer and interviewee, hand sanitising and wearing of masks were

followed. A screening process, with temperature checks were done before the interview process. An audio-recorder was used to record all interviews after a consent form for audio-recording was signed by all participants. The interview was conducted in the English language, as the participants were most comfortable and could communicate effectively in English.

4.6 DATA ANALYSIS

Data analysis involves the understanding or interpreting of information collected as data into manageable segments (Polit and Beck 2017: 535). The audio-taped information was transcribed verbatim and analysed using Braun and Clarke's (2006) thematic analysis approach. Thematic content analysis is one of the approaches that have been commonly used in qualitative research to interpret the data. The approach requires the researcher to engage in an interactive process of critical thinking, questioning and categorising. Thematic analysis allows for themes and sub-themes to be identified from the text. The transcripts were co-coded by an independent coder and results compared to check for consistency.

Braun and Clarke's (2006) approach involve the following steps:

Step 1: Familiarising yourself with your data

The researcher listened to the audio-taped information, personally transcribed the data verbatim and read it repeatedly. The transcribed data was then re- read several times to obtain an initial picture of the data.

Step 2: Generating initial codes

After understanding the data, sentences that described similar content were then grouped and coded based on the objectives of the study. At the initial stages, significant statements were coloured differently based on the common ideas.

Step 3: Searching for themes

After generating the codes, the researcher organised related codes into categories and sub-categories.

Step 4: Reviewing themes

The categories and sub-categories generated were then cross-checked against the full data set and the coded extracts for congruence. The emerging themes were then reassessed and regrouped where necessary.

Step 5: Defining and naming themes

The researcher assessed the categories again, regrouped and renamed them accordingly to reflect their individual contents accurately.

Step 6: Producing the report

The data findings were then combined into a concise, logical and non-repetitive report which was justified and supported by relevant literature.

4.7 ETHICAL CONSIDERATIONS

In order to protect the right of the participant and generate sound knowledge for practice, the following ethical considerations were followed.

4.7.1 Permission to conduct the study

Permission to conduct this study was obtained from the relevant authorities; study setting and ethics committee (Appendix 2a and 2b). The proposal was presented to the Durban University of Technology (DUT) Ethics Committee for clearance and approval. Permission to conduct the study was also sought from the selected private hospital before data collection began (Appendix 2a).

4.7.2 Informed consent

Informed consent is a legal procedure to ensure that a participant knows all the risks and costs involved in participating in a study ((Polit and Beck 2017:239). Informed consent was obtained from participants before data collection. The purpose and process of the study was explained to participants and an information sheet, written in English, was also given to all participants before signing the consent forms. The purpose of the study, potential benefits, risks associated with participating in the study, time commitment, and explanations of the process and procedures were

included. In addition, anonymity and confidentiality were discussed. It was emphasised that participation was voluntary, and that participants have the opportunity to withdraw at any time during the study.

4.7.3 Principle of beneficence

Beneficence is an important research ethical principle. Participants were informed that information divulged will be kept confidential and no discussion will be held with anyone including their employers. Beneficence imposes a duty on researchers to minimise harm and maximise benefits (Polit and Beck 2017:139). The participants have the right to be protected and if signs of distress are noted during the interview a debriefing can be held. The researcher ensured no harm came to the participants during the data collection. In this study all participants were treated equally and the same information were given to all participants.

4.7.4 Respect for human dignity

This principle of human dignity, according to Polit and Beck (2017:140), encompasses the right to autonomy and the right to full disclosure by the researcher. The principle of respect for human dignity addresses anonymity, confidentiality and self-determination. Informed consent according to Polit and Beck (2017:140) covers three aspects - content, comprehension and documentation.

Informed consent was obtained from all participants prior to participation in the study. During the course of the study, participants were assured that the data they provided to the researcher will be kept in strict confidence.

Participants had a choice to participate or withdraw from the study and participation was voluntary. They were given the right to speak freely without any coercion from the facilitators. They could refuse to give information and withdraw from the study at any time. The researcher recorded the participants as anonymous. The participants' real names were not used, instead research numbers or alphabets were used. This is a measure to protect the identity of the participants. In this study, all participants were notified that their names will not appear anywhere in the study.

4.7.5 Confidentiality

Confidentiality refers to the management of personal information to ensure only the researcher is directly involved with the study and is able to access information (Polit and Beck 2017:723). The participants had the right to choose who he or she prefers to share personal information with. Measures were taken by the researcher to ensure that confidentiality is maintained by using a coding system instead of using participant's names thereby ensuring the identity of the participants are kept anonymous. The participants' names were known only to the researcher and codes were used to identify them. The list of participants and their codes are kept under lock and key. Transcripts of the recorded interviews will be kept in a computer locked with a password only known to a researcher. All collected data from the participants will not be disclosed to anyone. Data in the form of audio - recordings and field notes will be kept in a secure place which will be locked and stored for five years, after which it will be destroyed.

4.8 MEASURES OF TRUSTWORTHINESS

Polit and Beck (2017:747) describe trustworthiness as the extent or amount of confidence that the qualitative researchers have in the data they have collected. The recommended criteria for ensuring trustworthiness were used to ensure methodological rigour. These five principles: credibility, transferability, dependability, confirmability and authenticity were used.

4.8.1 Credibility

Credibility is truthfulness of the data collected and their interpretation (Polit and Beck 2017:747). This was ensured through prolonged engagement with the participants. The researcher worked at the study setting and therefore had spent more time with the participants. Participants had enough time during the interview sessions to ensure sufficient data was collected. Spending enough time made participants feel comfortable to share their personal experiences and feelings. The researcher also had several debriefing sessions with the supervisor(s) during the data collection and data analysis stages.

4.8.2 Transferability

Transferability refers to the extent to which the findings can be conveyed and applied to other groups or settings in order for the study to be meaningful (Polit and Beck 2017:560). A detailed description of the study setting, methodologies, target population was presented appropriately. Sufficient contextual information was also presented.

4.8.3 Dependability

Dependability, according to Polit and Beck (2017:559), is the provision of evidence such that if it were to be repeated with the same or similar participants in the same or similar context, the findings would be similar. A detailed report of the processes involved in the study was outlined for easy repetition should the need be to repeat the study with similar participants. All the necessary consultations were also done where necessary. The research design and how it was implemented was also explained in detailed. The transcripts were co-coded by an independent coder and results compared to check for consistency.

4.8.4 Confirmability

This refers to accurate reporting of the real meaning of data as provided by the participants (Polit and Beck 2017:560). An audit trial was kept to confirm the processes. Digital recording was available to ensure that participants' information is captured and transcribed verbatim. The direct quotes of participants were cited to explain each theme and sub-theme. The supervisors read all the transcripts and assisted in generating themes and sub-themes.

4.8.5 Authenticity

Polit and Beck (2017:560) define authenticity as the extent to which researchers faithfully and fairly show a range of realities. The study findings were presented as

expressed by the participants. Their direct quotes during the interview process were used to explain and cited to authenticate the themes and sub-themes.

4.9 SUMMARY OF THE CHAPTER

This chapter described the research methodology used in the study. This included research design and methods, study setting, study population, sample and sampling technique, data collection, data analysis, ethical considerations utilised in the research. The next chapter will present the analysis of the findings.

CHAPTER 5: PRESENTATION OF RESULTS

5.1 INTRODUCTION

In the previous chapter, the research methodology of this study was outlined. Chapter 5 presents the analysis of the findings of the study. It begins with the demographic data of the participants, followed by the presentation of the themes and sub-themes that emerged from the analysis and finally ends with summary of the chapter. Individual quotes are cited verbatim to support the themes and sub-themes.

5.2 DEMOGRAPHIC DATA

Among the nurses participating in the study, 13 were females and two (2) were males, aged between 27-52 years. The majority were of the Indian race, followed by Black and Coloured races. All participants have obtained a Diploma in Nursing as their highest educational qualification. The years of experience ranged from six to 30 years working experience as a nurse. Table 5.1 below illustrates the socio-demographic profile of participants in this study.

Table 5.1: Socio-demographics profile of participants (n=15)

Code	Gender	Age	Race	Educational qualification	Years of experience
P1	Female	38	Indian	Diploma	16
P2	Female	39	Coloured	Diploma	21
P3	Female	40	Indian	Diploma	15
P4	Female	40	Indian	Diploma	19
P5	Female	33	Indian	Diploma	14
P6	Female	49	Indian	Diploma	26
P7	Male	33	Coloured	Diploma	12
P8	Female	34	Indian	Diploma	18
P9	Female	27	Black	Diploma	8
P10	Female	37	Black	Diploma	13
P11	Female	52	Coloured	Diploma	30
P12	Female	40	Indian	Diploma	20
P13	Female	30	Black	Diploma	9
P14	Female	37	Black	Diploma	14
P15	Male	31	Black	Diploma	6

5.3 OVERVIEW OF THEMES AND SUB-THEMES

Following data analysis, the essence of the non-critical care nurses' experiences deployed into the ICU during the COVID-19 pandemic was described under four major themes and their respective sub-themes as depicted in Table 5.2 below.

Table 5.2: Themes and Sub-themes

Major Themes	**Sub-themes**
Theme 1: Deployed nurses working in an unfamiliar ICU environment	Sub-theme1.1: Limited time for deployed nurses' orientation to the ICU environment and equipment
	Sub-theme 1.2: Overwhelming responsibilities for nurses deployed to ICUs
Theme 2: Nurses' lack of ICU experience, skills and knowledge	Sub-theme 2.1: Lack of prior qualification, knowledge and experience whilst working in an ICU
	Sub-theme 2.2: The need for specialised training for nurses working in an ICU
Theme 3: Lack of supervision, mentorship and leadership of the deployed nurses	Sub-theme 3.1: Lack of ICU supervision or mentorship
	Sub-theme 3.2: Lack of support and acknowledgement from management
Theme 4: The psychosocial impact of the COVID -19 pandemic on the deployment of nurses into the ICU environment	Sub-theme 4.1: The impact on emotional and mental well-being of nurses working in the ICU
	Sub-theme 4.2: Fear of the unknown related to the COVID- 19 virus
	Sub-theme 4.3: Feelings of insecurity due to knowledge deficiency of the COVID-19

5.3.1 Major theme 1: Deployed nurses working in an unfamiliar ICU environment

The first theme to emerge from the findings related to participants experiences was described as 'deployed nurses working in an unfamiliar ICU environment'. The ICU was mentioned as a fast-paced environment within the hospital that differs significantly compared to the acute ward setting. The environment is one that

houses most of the sophisticated technologies and equipment, medications and machines in the hospital setting (Marshall *et al.* 2017: 272). Participants expressed that they struggled to keep up with the changes and pace compared to the other wards they were familiar with. The theme was further described under two sub-themes as follows:

5.3.1.1 Sub-theme 1.1: Limited time for deployed nurses' orientation to the ICU environment and equipment

The ICU is a specialised unit in the hospital that provides care to the critically ill patients using sophisticated equipment. In order to work in such a setting, it is vital to be orientated, not only to the environment, but also to the equipment (Marshall *et al.* 2017: 272). Due to the hurried nature of nurses' deployment during COVID-19, as part of its response guidelines and crisis intervention, there was limited time for hospital management to arrange formal orientation sessions for nurses. The majority of participants admitted that the environment was new to them compared to their original clinical departments. Their experiences of being deployed to work in ICU, was like working in a new environment and they felt that they had to start all over again as nurses, but this time with no proper training. The monitors, cables and some medications were some of the new challenges these nurses were forced to adapt to in order to assist, manage and try to save the lives of patients admitted to the ICU. Two participants described the experience as "being thrown into the deep end", where they had no choice but to "learn to swim", despite not being provided with any form of orientation.

"It was so overwhelming because I have never worked in ICU before and with the COVID …..all the patients were critically ill. So it felt like I was put in the deep end….but I knew I had to learn to swim…" [Participant 13]

"Even to me, it affected me very emotionally. It was very difficult for me. I will never ever forget that time being thrown in ICU…. I felt so useless as a nurse…it was as though I did not know anything…" *[Participant 15]*

The lack of orientation to the ICU environment, monitors and ventilators were described as scary. Some participants were scared by the high-tech environment and the many cables, machines, alarms and the unfamiliar medication protocols inherent in an ICU environment. Participants felt that nursing care and patient management in a non-critical care environment was basic compared to that of an ICU. These concerns were further heightened due to lack of orientation to the environment.

"Intensive Care is the way they do things is very, very different. So, you go there and everything is difficult, how they do the mixing of their infusions, or their monitors how everything works…when you walk into those ICU doors. What you do in the ward is so basic. Then you look at all those machines. You look at all those monitors and things and they have all those lines attached it's enough to scare anybody…" [Participant 2]

"Nursing such critical patients, unfamiliar equipment, no training of that equipment, new drugs, nobody to actually teach you how to administer the drugs is scary…" [Participant 6]

"So, you have to check, change the CVVHD, the ventilator plus the infusion that we're not familiar with. Sometimes the patients still have infusion, we must make sure that all of those infusions are always running otherwise something will happen to the patient. It was very difficult task." [Participant 15]

In the absence of formal orientation, the majority of participants had no time to familiarise themselves to their new environment. Participants described it as a "rash" or reckless situation as critically ill patients demanded thorough preparation and investigations that warranted care from skilled nursing staff. Due to the unfamiliar nature of the ICU environment, participants were often nervous and scared.

“It was like a rash situation because most of the patients were critically ill coming in with COVID, needing to put in lines, preparation for the doctors of putting in central lines; A lines; hemodialysis catheters. So, you have to know how to set up for them, what drugs they need means…” [Participant 3]

“…I was a little bit apprehensive because it's a completely new environment from what I am used to working in so I was very nervous. I was scared at times. I felt like doubtful within myself because an intensive care unit is specialised unit that require specialised nursing skills and where I was coming from, I don't have any experience in that department…” [Participant 4]

Some participants also added:

“Well, firstly, nursing a ventilated patient, it was not easy. We don't know how to nurse a ventilated patient. We had to actually learn at that moment, we were forced to learn. It was a huge challenge because we don't know much of the equipment over in ICU…” [Participant 8]

“It was a scary time of my life, because I wasn't. I mean, we'd worked in ICU as students but not when there was this pandemic. Everyone was scared, everyone didn't know what they were going to face during that time. It was time where you didn't know whether you were doing the right or the wrong thing because no one knew what was right or wrong at that time” [Participant 12]

“First time sister, it was an experience working in the ICU but I was scared because I never worked in that environment. It was very busy and hectic…” [Participant 14]

“In the ICU, when you come there, there are some new things that are not in the ward. New procedures, like ventilator, we didn’t know what the ventilator is. With the six years of experience, I've worked but I've never seen those things that I have come across in the ICU. So, there are some new things that so I think I needed more

in order for me to work in the ICU. I see not everybody can work in the ICU…" [Participant 15]

5.3.1.2 Sub-theme 1.2: Overwhelming responsibilities for nurses deployed to ICUs

The provision of care to patients and their families is central to the roles and responsibilities of nurses working in the ICU (Vanderspank-Wright, Efstathiou and Vandyk 2018:16). However, providing nursing care in an unfamiliar environment with Lack of training and orientation can be a daunting task. Several participants reported that the deployment to the ICU placed a tough responsibility on them to deliver and simultaneously save lives. Due to the unfamiliar nature of ICU to participants, most of them were overwhelmed, however, they had to take up the challenge. The nature of the ICU work, and that of making quick decisions based on interpreting values, makes experiential learning vital. Most of them did not know what to expect and what to do. Some expressions included the following:

"It was very overwhelming, but traumatic also especially during COVID outbreak, not knowing much about the ICU environment, and going there and seeing all the machines and seeing all the equipment, the different equipment of which I had no idea how to use and the ventilator, was also very difficult to even look at that point…" [Participant 3]

"… when anybody thinks ICU it's like ICU, the highest level of care and the more sickest people in the hospital. So, I think that alone is like a huge responsibility to take upon your mind at first to grasp before even getting there. And we don't know what to do, what to expect so like, you know, it's a new situation that you have to learn about. But obviously, when you don't know about something, it's going to scare you" [Participant 4]

“You know, it was very overwhelming. There was nobody there to supervise us, there was nobody there to watch over us. For us we were put there and we were expected to work and it was a huge challenge for us at that time” [Participant 8].

The environment was described as a ‘fast-paced’ and with a high patient turnover. Some participants reported that they had to act fast, while providing nursing care as patients’ conditions deteriorated quickly in the ICU setting and there was never enough time to complete daily tasks, as compared to the acute ward. This is evident in the following excerpts:

“Well, for me, the most difficult thing was the fast-paced, how can I say because you know, some of the units and the turnover of the unit with regards to patients coming in and sick patients and you know, you have to act fast because these patient's condition would deteriorate so fast…you couldn't find enough hours in a day to complete a task you just fell today was short enough…” [Participant 4]

“Nursing such critically patients, unfamiliar equipment, no training of that equipment. New drugs, nobody to actually teach you how to administer the drugs. You have to stand, take our time and start researching it for yourself, which took away your patient care because you cannot administer drugs unsafely” [Participant 6]

“COVID came and we didn’t know what to expect. We've never worked like this before. We never saw such ill patients like this before and the rate they were dying. So, it was overwhelming. And it, there was nothing that could have prepared us for this. Even that 19 years of work that I had, would have never helped in this time. It was too much…” [Participant 8]

Other participants also added:

“Patients conditions were so critically ill and needed everything from you and you couldn’t give it…” [Participant 6]

“Some of the equipment for example, high flow oxygens has different types from different companies. So, whenever they are in service and also ask to use them, there was no time due to the shortage of staff and high turnover of patients. So, we had to figure it out on our own…” [Participant 7]

“This was the first time I'd seen something like this so it was a scary time. A patient's condition can change within minutes you will be talking to the patient and the next thing the patient is out of breath, patient goes onto arrest and then the next thing the doc says wants to ventilate the patient. It was something you didn't know. You didn't know whether it was the right or the wrong thing you were doing for the patient” [Participant 12]

“The difficult task was when the doctors would come in like three, then they want to put up the CVP, they want to put in the A-line and the emergency bell will ring in bed 4 and in bed 9 it will be ringing then we will be running around…” [Participant 13]

“You know, when you are working in the ICU, the doctors think when you work in the ICU, you know what to do. There's a patient that was on a CPAP but she was deteriorating, so I had to put her on EVO so it's as difficult for me to even connect. When you working in the ward, you don’t know that there are different types of oxygen. We only know the cannula, face mask, re-breather. But when you work in the ICU, there is CPAP, ventilator, EVO…” [Participant 14]

“For me, it was very difficult. It was the first time being there in the ICU even no experience, plus it was very hectic, people were dying. With a patient that is COVID you can come at seven and the condition will change at 10 then the patient will die during the day. So that's like you working in fear…” [Participant 15]

5.3.2 Major theme 2: Nurses lack of ICU experience, skills and knowledge

Another theme that emerged was the lack of ICU experience, skills and knowledge of nurses deployed into the ICU. Due to the very nature of their placement into the ICU, nurses with no previous ICU experience, skills and knowledge, and no prior

ICU training, were unprepared to work confidently in the ICU. The majority of participants did not have the right qualifications and expertise to manage care and treatment regimens for critically ill patients. The nature of the ICU environment, certain medication protocols and nursing of patients on assist devices such as the ventilator were all new to participants. Two sub-themes emerged from this theme.

5.3.2.1 Sub-theme 2.1: Lack of prior qualification, knowledge and experience whilst working in an ICU

Participants voiced their concerns that they did not have the proper qualifications and the practical specialty to work in the ICU. Some participants were not familiar on donning and doffing procedures related to PPE usage.

“I didn't have the proper qualifications and practical specialty to nurse those types of patients. I didn't even know how to don PPE…” [Participant 1]

“An intensive care unit is a specialised unit that require specialised nursing skills and where I was coming from, I don't have any experience in that department…” [Participant 4]

“I had no inclination or no knowledge of a critical care unit because I am not ICU trained…” [Participant 5]

For some participants, their placement into the ICU was without adequate prior notice. They were not familiar with managing ventilated patients and had no previous knowledge on the use of ventilators. Some were not familiar with certain medications that were used in the ICU.

“It was too short notice, and I'm just a normal registered nurse working in a normal general ward. So, I do not know how to use a ventilator. I do not know how to give certain medication in the ICU. It was very hard. So, most of the time I felt short in different areas…Nursing a COVID ventilated patient that was the hardest thing.

Nursing them on the ventilator and then they will die and you had to put them in a body bag…" [Participant 1]

Participants had never worked in the ICU setting before and had no prior knowledge or experience whatsoever. Their experience gained in the acute wards, was rudimentary compared to that needed for the ICU, especially during the COVID-19 pandemic. The unpreparedness for COVID-19 and training also contributed to this lack of knowledge.

"The COVID - 19 pandemic was very scary. It scared a lot of people. Adding to that when they asked me to work in the ICU setting, I have never worked in the ICU setting before that I really panicked, I was very stressed about it as well. Well, when I received the call that morning, they had said that ICU was very short staffed and they needed nurses to go through to the ICU. So, with no prior knowledge or ever, I think I've only been in ICU once and that was just to go see a doctor there. So, I actually have no experience with ICU" [Participant 2]

5.3.2.2 Sub-theme 2.2: The need for specialised training for nurses working in an ICU

It is essential that nurses receive adequate specialised training prior to working in the ICU. The lack of ICU training, especially during COVID-19. exposes nurses to all sorts of uncertainties and hazards. Participants described the ICU as a 'different area' that needed adequate training to function in. Unfortunately, none of the participants had prior ICU training before being placed in the ICU. Actual excerpts from participants are as follows:

"It's a whole different area. I think COVID is like nobody was trained to deal with COVID. As a general nurse in the general ward and ICU is very different because they have many invasive drugs that they use…….very invasive equipment that they use of which there wasn't any training. I mean, for example, the high flow machines.

It took some time to troubleshoot those machines to figure out if there's a problem, what's wrong with the machine…" [Participant 3]

Some participants also added that they felt like brand new nurses out of college while deployed to work in the ICU during the COVID pandemic. The ICU environment was different and therefore needed a lot of theoretical and practical experience in order to work there.

Other participants also added:

"I felt absolutely overwhelmed that I was just abruptly taken out of my unit and placed in a unit that I wasn't familiar with. It took a toll on me and it overwhelmed me…Nothing equipped you to work in the ICU during the pandemic. The patients were too ill, the drugs were experimental, certain of the drugs were new, and we were playing around with ventilation and settings unknown to us…" [Participant 6]

"I didn't know what to expect, what type of patients we were nursing, and with the pandemic we were learning every day. So, we didn't know what type of patients we were going to nurse…" [Participant 8]

"…this was the first time I'd seen something like this so it was a scary time. A patient's condition can change within minutes you will be talking to the patient and the next thing the patient is out of breath, patient goes onto arrest and then the next thing the doc says wants to ventilate the patient…I have got theatre experience. So, working in the ward, I was in the ward many years prior to that, so it was just not I don't think we were equipped enough…" [Participant 12]

"It was so overwhelming because I have never worked in ICU before and with the COVID all the patients were critically ill. So, it felt like I was put in the deep end…" [Participant 13]

“When you working in the ward, you don’t know that there are different types of oxygen. We only know the cannula, face mask, re-breather. But when you work in the ICU, there is CPAP, ventilator, EVO…” [Participant 14]

5.3.3 Major theme 3: Lack of supervision, mentorship and leadership of the deployed nurses

Theme 3 highlighted the lack of supervision, mentorship and leadership of the deployed nurses and the level of supervision and leadership that deployed nurses experienced whilst being allocated to the ICUs. Due to the high-tech, fast paced nature of the ICU environment, especially during the surge of the pandemic, management and training staff had no time to teach, guide and supervise participants. Participants were left alone to care for patients with lack of assistance, support and managerial acknowledgment. This was evident in the following sub-themes that emerged.

5.3.3.1 Sub-theme 3.1: Lack of ICU supervision or mentorship

This sub-theme explains that nurses received no supervision or mentorship while deployed to the ICU during the pandemic. Due to the novel nature of the COVID-19 virus and its treatment modalities, supervision and mentorship were essential to guide novice and inexperienced nurses, especially those that were new to the ICU environment. Unfortunately, nurses allocated to the various ICUs lacked supervision or mentorship while providing nursing care to COVID-19 infected patients. Some participants were left alone to fend for themselves in the challenging ICU environment. This is evident in the following statements:

“We were left, we were left alone to fend for ourselves, and we were thrown in the deep end. It was really difficult. There were many times where I would stop and cry. We do get emotional because of the patients, also because of the workload. There is no help so you’re carrying double if not tripled the load…” [Participant 1]

“It would have been very nice if we had somebody, that we could, you know, just go and ask the question. How do you do this? [Participant 2]

“There was no supervision. It was either sink or swim. There was nobody that was able to help you. There were senior members on the floor, but they were overwhelmed themselves…” [Participant 6]

Even with no previous ICU experience, participants were expected to work with minimal or no supervision. The level of supervision was inadequate to assist participants in such a technical environment and also during a pandemic.

“So even without the knowledge or the experience in ICU, we're expected to go and work there, obviously, under supervision but because of the business of the department and the shortage of staff, it was very minimal supervision. …It’s such a specialised units and there's only one staff apart from myself who don't really know. They have just been put there expected to work under minimal supervision…” [Participant 3]

Other participants also added that there was lack of proper guidance. Participants had to learn on the job while nursing two or three ventilated patients.

“Well, you know, it was a pandemic, you'd have to be honest. And although there was a shift leader, however, and the unit manager, but a shift leader who is on the clinical aspects had patients of her own. There are other ICU trained nurses there, but you must remember due to the high demand of patients there; the shortage of staff, they were overwhelmed themselves so they were nursing like two or three ventilated patients themselves. So, I would say like, there was no time for somebody to you know, show you from the beginning as to or properly orientate you to know exactly what to do from start to finish and also, there was no proper guidance. You have to go in there, do what you needed to do, learn on the spot, if you could…” *[Participant 4]*

The excessive workload, the high patient turnover and busy nature of the ICU working environment, made it difficult to get assistance from shift leaders and other experienced colleagues. None of the staff had the time to teach and orientate untrained nurses placed in the ICU. Majority of the staff, including the shift leaders, were assigned to patients.

"It was very pressurising, I would say, because no one had the time to hold you by the hand and teach you. And I will say that, you know, that was like, it was very unsettling for myself. You know, although I'm a registered nurse, but I just feel like it was very scary. I needed that support. I didn't get that support at that time. ….I mean, emotionally, physically, because everyone is also stressed out themselves, given the situation that you have to work under…" [Participant 4]

"The workload was excessive, as we all had to triple up and take it between three Sundays for patients each. So, nobody was able to assist even if they wanted to help you…" [Participant 6]

Although the shift leaders were available to handle a busy shift, they were also overwhelmed by the patients' turnover. Often shift leaders had their own patients to care for during the shift. Therefore, they had no time to guide the inexperienced staff.

"We only have one shift leader at the time and that shift leader had to shift-lead and be in charge of the unit as well as take on her own ICU patients; own COVID ventilator patients. So, there was no there was no help. No help…" [Participant 1]

"Some days there was, maybe one or two people not supervising trying to help you but they also have their own patients. So, there were shift leaders, I wouldn't say there wasn't. But they were also very busy when there were critically ill patients. They were taking patients on their own as well. Plus, they had to supervise other nurses. So yes, it was a difficult time you couldn't sometimes you couldn't get someone to help you. You were trying to do it on your own…" [Participant 12]

“Here and there, there were shift leaders but everybody was busy. The shift leader has got her own patient…” [Participant 14]

The kind of patients admitted into the ICU were critically ill. Also, the treatment regimen for managing COVID-19 were experimental due to the new nature of the virus. Nurses had to continuously manage patients on ventilators and administer new medications that necessitated strict formulation. As a result, there was limited time and personnel to teach or assist inexperienced nurses, due to the overwhelming nature of the ICU work. There was no one to guide them on how to administer the drugs.

“Nothing equipped you to work in the ICU during the pandemic. The patients were too ill, the drugs were experimental, certain of the drugs were new, and we were playing around with ventilation and settings unknown to us. There was nobody to teach you and show you and assist you even guide you and not from a lack of people not wanting to but they were overwhelmed and running themselves. So, no nothing ever prepared you for that…” *[Participant 6]*

Another participant confirmed that no training was provided to them or nobody supervised them.

“No, there was no type of training. We were just push over there and were expected to work and carry out the functions as a nurse working in the ICU. There was nobody there to supervise us, there was nobody there to watch over us. For us we were put there and we were expected to work. And it was a huge challenge for us at that time…” [Participant 8]

Everyone was rushing to save lives. Things were moving so fast. Participants added that there was no proper supervision. Everyone was busy and there was a shortage of staff.

“Everyone was rushing. So, like, we were just thrown there. And then we had to like catch things very fast, only to find that there was no like a person who is supervising us at that time. Not, not like supervision like one-on-one supervision. …. but there was no lack of proper supervision cos as I said, everyone was like we were very busy and patients were dying. A lot of staff were not there… shortage of staff…” [Participant 15]

5.3.3.2 Sub-theme 3. 2: Lack of support and acknowledgement from management

According to the majority of nurses, the pandemic was a first of its kind that they had encountered. Therefore, management needed to support nurses as much as they could and also intermittently acknowledge the kind of work they had to do during this challenging period. It was noted that once nurses were allocated into the various ICUs to bridge the ICU staff gap, support from management ceased. There was no support of any kind from the hospital management. Some participants emphasised that senior management was not even around the bedside during the COVID-19 pandemic. Nurses were left alone towrope with lack of support from senior management. Participants noted the following:

“Senior management were nowhere to be found during this pandemic. We were left all on our own, all of us struggling in that same boat. And it's not the shift leaders and staff together did not want to support each other or help or teach or train” [Participant 14]

“…… it was just humanly impossible because of the needs of our patients, the demands of our patients, the amount of resuscitation of patients and the number of deaths that we were having…” [Participant 6]

5.3.4 Major theme 4: The psychosocial impact of the deployment of nurses to the ICU during the COVID-19 pandemic

The fourth theme to emerge was the psychosocial impact of the deployment of nurses to the ICU during the COVID-19 pandemic**.** The deployment of nurses to the ICU had psychological, emotional and social effects on the well-being of nurses. Emotionally, it was a difficult time for nurses. It was also a period where nurses had to work under pressure, engage in critical thinking and save precious lives. The following sub-themes emerged from this theme:

5.3.4.1 Sub-theme 4: Emotional and mental well-being of nurses working in the ICU

The deployment of participants into the ICU during the COVID-19 pandemic had a great emotional and mental toll on nurses. Some participants described their experiences as emotionally draining, sad and stressful. This was as a result of the nature of patients' conditions, the kind of ICU care and the nature of the pandemic.

Some participants said:

"It was scary in the beginning but then when I would get into the cubicle and nurse them. I felt sad, I felt sad for them being in that situation being without family……there were many times where I would stop and cry. We do get emotional because of the patients…" [Participant 1]

"So that also took you know, emotional toll on me because I'm a family person and I'm throwing myself into this situation and if I get sick what happens to me and my family…" [Participant 4]

Other participants added that:

“It took a toll on you emotionally you wonder if you were even going to live through the pandemic…you got emotional when you saw patients that were dying in front of you…” [Participant 6]

The novel nature of the COVID-19 and how much was unknown also raised participants’ anxiety levels. Some participants were nervous; as indicated in the quotes below:

“I was afraid, I was anxious and nervous. Obviously as a new pandemic, new virus across the whole world, so a lot was unknown about it, so I was a bit anxious…” [Participant 7]

“Emotionally we were finished. We were wrecked. We were crying, we were, there was no words to explain how we felt…Emotionally, we were not the same. We were frightened…” [Participant 8]

“…you sometimes even cried yourself to sleep at night. So yeah, it got you emotionally…” [Participant 12]

“Oh, it was so stressful because you would come in, you'll have two patients and both of them would demise. Then you'd get a new patient and so it was draining, like emotionally psychologically. It was too much. Yeah, it was so emotional for all of us…” [Participant 13]

“By the end of the shift, when I am going home, I have to cry; then you see those people that are more sick…” [Participant 14]

“It was very emotional. I even cried sometimes, go home very stressful seeing the patient very sick. Doing everything, you connect to this patient to even give hundreds like 100% oxygen but you will see this patient is helpless. Put it on the vent the next time the patient will die. So, it was very stressful and we as nurses have even tried…” [Participant 15]

Working in the ICU was also described as a mentally challenging and a stressful experience. Participants had to think critically and assess situations on a daily basis. Participants needed to integrate theoretical and practical experiences, which most did not have.

"So, an ICU nurse is different. You know, it is critical thinking. So that takes a lot of experience and a lot of theoretical and practical experience on a daily basis…" [Participant 4]

"…when you are just told, you are allocated now that you are, you have to go and work and it's a pandemic on top of it. You are so stressed. I will say I was feeling like, like there was a storm going in there because I didn't know what to expect…" [Participant 9]

Working in such a demanding environment was an exhausting experience for some participants. According to one participant, it took everything out of you: as indicated in the excerpt below:

"So, it was just exhausting and overwhelming, and it took everything out of you…" [Participant 5]

Nurses placed in the ICU reported that they barely coped with the nature of the environment and they had to be mentally prepared for its challenges.

"I barely coped; it was physically draining. It was mentally draining. …and it was just overwhelming on a big scale…" [Participant 6]

"Mentally, it was challenging because obviously people are so sick and a lot deteriorating very fast. Obviously, oxygen, you see people gasping needing oxygen was a bit mentally draining and stressful…" [Participant 5]

"…it was a bit challenging, stressful because I think mentally just going through and basically nursing COVID patients. It took a toll on me…" [Participant 7]

"Well, it was really hard, mentally it affected us. We were seeing people die all the time, and learning or being in a new environment at that time, it was very overwhelming. It was scary for us…" [Participant 8]

The shortage of staff and the high turnover of patients, also made the experience a tough one for some participants. According to some, it was stressful when there was limited staff and you were forced to learn on the job all the time.

"I think it was it was very stressful. They were very short staff. So it was a very, it was a really tough experience…" [Participant 2]

"It was a huge challenge because we don't know much of the equipment in ICU and by working over there, we were forced to learn it at that time…" [Participant 8]

The novel nature of COVID-19 and how much was unknown, raised participants' anxiety levels. Mentally, it was hard. Some participants were nervous, as indicated in the quote below:

"Well, it was really hard, mentally it affected us. We were seeing people die all the time, and learning or being in a new environment at that time, it was very overwhelming. It was scary for us…" [Participant 8]

5.3.4.2 Sub-theme 4.2: Fear of the unknown related to the COVID-19 virus

Majority of the participants mentioned that they worked in fear whilst allocated in the ICU during the COVID-19 pandemic. The deployment to the ICU came along with some associated fears of contracting the COVID-19 virus; fear of infecting family members; fear of completing daily task and loosing patients. The fear of contracting the COVID-19 virus was mentioned by many participants. The novel nature of the

virus, mode of transmission and the high rate of infection, made participants fear for their own lives. Some participants said that:

“The thought of working in a COVID unit was scary, very daunting. I was afraid that I would get sick…” [Participant 1]

“I think fear was the most, I mean you wake up in the morning time, you are so afraid to go to work because you don’t know what is going to happen today…” [Participant 2]

“It was fear, anger, sadness, obviously losing patients during COVID time as well as contracting COVID and taking it to your family…” [Participant 3]

“Fear. It’s fear of the unknown because we don’t know what COVID is and we don’t know what to do, what to expect so like, you know, it’s a new situation you have to learn about…” [Participant 4]

“We were scared ourselves that we were going to get COVID. So, it was really scary. There was a huge challenge as working over there because we were scared in case, we end up being one of those patients and dying at one time. So yeah, it was scary…” *[Participant 8]*

Other participants also added that:

“So, it was scary because you felt you didn't know whether you were taking this home with you, whether you were affecting other people around you…” [Participant 12]

“Eeei, it was difficult because I was also scared that I might also get COVID so it was so difficult but we did all we can for the patient's sake…” [Participant 13]

Several participants also harbored fears of spreading the virus especially to their closest family members.

“I was scared to go in there thinking what if I'm going to get sick or if I'm going to go home and give this to my family…” [Participant 4]

“So, there is fear for yourself and then fear of taking COVID to your family Not been able to visit your elderly parents because you afraid that if by some chance you contact COVID you’re going to be taking it home to them…” [Participant 3]

“We didn't want to go home, take this to our families and see them sick like the patients that we were nursing…” [Participant 8]

“So it was scary because you felt you didn't know whether you were taking this home with you, whether you were affecting other people around you…” [Participant 12]

“…. I was scared that I'm going to take COVID to my kids at home, even to my family…” [Participant 14]

“Maybe I will take this COVID at home, to the family, to my brother. So yeah, it really affected me…” [Participant 15]

The majority of the participants were not familiar to the ICU environment and daily routines. Death was also a common phenomenon especially during the COVID-19 pandemic. Most critically ill patients had to be closely monitored for any changes due to the nature of the infection. At each ICU shift, participants were afraid of what they were leaving behind and uncertain of whether they had completed what needed to be done. Again, some were also afraid of losing many patients to the virus.

“… And at the end of the shift as well you are so afraid of what you're leaving behind whether you did complete the work, the work that you needed to do for the day…” [Participant 2]

“It was fear, anger, sadness, obviously losing patients during COVID time…” [Participant 3]

“And it was fear of the unknown. Because, I mean, when anybody thinks ICU it's like ICU, the highest level of care and the sickest people in the hospital…” [Participant 4]

“Those machines, the equipment were so different. The EVO, respirators and all those things. You keep asking people that did I do the right thing. That was my challenge and fears…” [Participant 11]

5.3.4.3 Sub-theme 4.3: Feelings of insecurity due to knowledge deficiency of the COVID-19 virus and its outcome

Some participants also felt insecure due to the lack of knowledge and the nature of the virus. To some it was their first-time being part of a pandemic and did not know what to expect. Some participant expressions included:

“There were so many mixed emotions going through my mind. But the biggest, I would say is fear. Fear. Its fear of the unknown because we don't know what COVID is…” [Participant 4]

“I was afraid, I was anxious and nervous. Obviously as a new pandemic, new virus across the whole world, so a lot was unknown about it, so I was a bit anxious…So it was a bit challenging but it was tough It took a toll on you because during the first pandemic myself I had COVID and was admitted. Having a family with a small baby, I had a lot of fears…” [Participant 7]

“It was scary…I have never been in a pandemic before and this was the first time in all my years of nursing so it was a whole different thing; totally different. I was very

scared because for the first time I had to work with those machines and this thing COVID was very new to us…" [Participant 11]

5.4 SUMMARY OF THE CHAPTER

The chapter presented the findings of the interviews using Braun and Clarke's thematic analysis. Four main themes with nine sub-themes emerged that described the experiences of non-critical care nurses who were deployed into the ICU during the COVID-19 pandemic. This chapter also highlighted the physical, psychological and psycho-social challenges and stressors that these nurses faced whilst working in an unfamiliar environment. The next chapter presents the discussion of the results.

CHAPTER SIX
DISCUSSION OF FINDINGS

6.1 INTRODUCTION

The previous chapter presented the findings that emerged after the analysis of the qualitative data. In this chapter, the findings are discussed in line with the study objectives. Relevant literature is used in the discussion of the results that either support or refute the findings. The discussion also integrates the theoretical framework that guided the study.

6.2 DISCUSSION OF THEMES AND SUB-THEMES

6.2.1 Theme 1: Deployed nurses working in an unfamiliar ICU environment

According to the findings, non-critical care nurses deployed into the ICU expressed that they were worked in an environment that was not familiar to them. The majority of the participants had worked in acute care settings that were different in many ways, when compared to the ICU environment. The ICU environment is described as an organised system and a specialised environment within the hospital that provides specialised nursing and medical care to patients with life-threatening and chronic illnesses using sophisticated machines and medications to save lives (Marshall *et al*. 2017: 274). This same environment is also staffed by a team of skilled healthcare professionals that have special critical care training and additional qualifications in critical care (Marshall *et al*. 2017: 274). Hence, working in such a unit, it is expected that the healthcare team including nurses, must have the training and expertise to work in the ICU, have continuous orientation to the environment and equipment and be familiar with the activities in the setting. The theme was explained under two sub-themes as discussed in the next section.

6.3.1.1 Sub-theme 1.1: Limited time for deployed nurses' orientation to the ICU environment and equipment

The results of the study highlighted that participants were hurriedly deployed into the ICUs during the COVID-19 pandemic. The deployment was necessary to increase the nursing workforce during the early phase of the pandemic. As a result, and as part of disaster response guidelines and crisis intervention, there was limited time for hospital management to arrange formal orientation sessions for nurses. Chan (2020: 383-384) agrees with the finding and also confirmed that the sudden outbreak of the COVID-19 and the rapidly increasing number of COVID-19 infected patients outweighed the medical capacity in many countries. During the initial phase of the COVID-19 outbreak, there was inadequate medical and nursing staffing to combat such an outbreak. A report by Mitchell (2020:1) in the Nursing Times also supported the study findings that there were inadequate nurses with intensive care experience to manage the critically ill patients admitted into the various ICUs. Therefore, the deployment of non-critically care nurses and other healthcare providers was necessary to bridge the gap and save lives. However, there was limited time for orientation to the ICU environment and equipment.

The deployment of healthcare workers into units such as the ICUs was necessary to accommodate the unprecedented rapid fluctuations in the number of patients infected with COVID-19 (San Juan *et al*. 2021:1). However, there was the need to build the healthcare providers' competence and confidence before redeployment into unfamiliar units. According to the National Health Service England (2020:2), building competence and confidence level is a golden principle of safe redeployment. Adequate training of healthcare workers, their introduction to the clinical practices on caring for COVID-19 patients and the appropriate use of personal protective equipment (PPEs) also needed to be provided beforehand (Faderani *et al*. 2020:3). In this study, it was found that the nurses deployed to work in the ICU during the COVID-19 pandemic struggled to keep up with the changes and the pace of the settings compared to the other units they were familiar with. The majority of the nurses had not worked previously in the ICU unit and were therefore were not familiar with the nature of nursing practices undertaken in the unit. This was a result of the limited orientation they received during their allocation to the ICU environment. In support of this finding, Danielis et al. (2020:1152) also reported that

nurses that were urgently transferred to the ICU were not given the time to prepare both personally and professionally. The majority of the nurses felt they were not ready to be forcibly allocated to the newly established COVID-19 ICU.

Similarly, another study conducted in Singapore among nurses deployed to work in the ICU also described their experiences as “being thrown into the deep end pool” (Tang, Lin and Chan 2021:5). This is in support of the finding that nurses had limited time for ICU orientation to the environment and the equipment. Some nurses, upon hearing the news of their deployment into the ICU, felt that they were thrown into an unfamiliar and complex environment that required them to manage COVID-19 infected patients. The general ward nurses that were deployed to the ICU were not adequately assessed, informed and equipped by the hospital to work in the ICU. According to some of the nurses, although the deployment was necessary to expand the capacity of the ICU nursing workforce, there was a need to consider the applicability and relevancy of one’s clinical experience before the allocation. It is noted that none of these were considered.

The study findings were also consistent with that of a study conducted in Qatar that explored the lived experiences of frontline nurses providing nursing care for COVID-19 patients (Villar *et al.* 2021: 3518). According to the study, one of the challenges reported was working in a new environment. It was reported that none of the participants had previously worked in a situation like the COVID-19 pandemic. Therefore, they had to adapt to new policies and pathways, which took some time to become accustomed to it. Likewise, because of the increasing numbers of COVID-infected cases, most of the nurses had to be deployed to units such as the ICU that were beyond their nursing experience and background.

6.3.1.2 Sub-theme two: Overwhelming responsibilities for nurses deployed to ICUs

The provision of nursing care to critically ill patients and their families is central to the roles and responsibilities of nurses working in the ICU (Vanderspank-Wright,

Efstathiou and Vandyk 2018:23). However, providing nursing care in such a technical and fast-paced environment can be also challenging and stressful for nurses (Vahedian-Azimi *et al*. 2019:320). According to the results of this study, nurses found that their deployment to the ICU presented overwhelming responsibilities as they had to make quick decisions, save lives and also adapt to the changes in the setting. The high patient turnover and frequent changes in patients' conditions made nursing care very demanding in the ICU. These findings concur with the findings of other recent studies that indicated that the COVID-19 pandemic has adversely affected the world and the health systems. Healthcare providers especially nurses, the primary caregivers, have also been psychologically pressured in many ways whilst providing continuous care for COVID-19 patients (Shen *et al*. 2020:3). The pandemic has placed an overwhelming responsibility on the healthcare providers especially nurses as they were redeployed into other units to augment the existing working force (Tang, Lin and Chan 2021:8). Adapting to the new ways of doing things, donning several layers of PPEs and working long hours made it an overwhelming one.

The study findings are similar to that of Hu *et al*.'s (2020:4) conducted in Wuhan, where it was confirmed that nurses providing care to patients with COVID-19 were overwhelmed by the kind of work they had to do. Some nurses in their study recalled how they had to don several PPEs that made them clumsy, sweat and suffocate at the same time while providing care for critically ill patients. The increasing number of cases required nurses to work under extremely stressful conditions while doing their best for patients that were not getting better. Similarly, in Spain, Fernandez-Castillo *et al*. (2021:400) also supported the findings that the pandemic placed huge responsibilities on nurses. The expansion of nurses' roles and responsibilities, especially due to the increasing bed occupancy in the ICU and the need for specialised care, increased the workload in the ICU.

6.3.2 Theme 2: Nurses' lack of ICU experience, skills and knowledge

In this study, it was evident that nurses deployed to the ICU had no ICU experience, lacked the basic skills and knowledge to work in the unit and also manage COVID-19 patients admitted to the ICUs. According to Carter and Notter (2020:100003), the COVID-19 pandemic is a new, highly infectious disease with an incomplete understanding of the clinical course. Therefore, adequate knowledge and understanding of COVID-19 is important for its successful management. Adequate education and training prior to a disaster is always recommended, however, it is difficult to conduct during a pandemic. The theme was discussed under two sub-themes; as indicated below.

6.3.2.1 Sub-theme 2.1: Lack of prior qualification, knowledge and experience whilst working in an ICU

The findings of this study showed that nurses deployed to the ICU during the COVID-19 pandemic had no prior ICU qualification, knowledge and experience, whilst working in the ICU. All the participants had no practical specialities to nurse critically ill patients on ventilators. The lack of prior qualification, knowledge and experience was evident and that made working in the ICU stressful, demanding and challenging. The study findings concur with the study by Specht *et al.* (2021:3009) that found nurses in Denmark working in the ICU were insufficiently qualified to care for and treat patients during the COVID-19 pandemic. These nurses were also transferred with different job functions such as working in the outpatient department to working in the ICU. These nurses had no previous ICU experience and were not ICU trained nurses.

Similar results were found in Singapore where general ward nurses deployed to outbreak ICUs during the pandemic perceived a gap in their ICU knowledge and skills (Tang, Lin and Chan 2021:7). The complex nature of care in the ICU requires that nurses are well versed with essential critical care knowledge and competency in performing the necessary procedural skills. This is often attained by obtaining additional qualifications and training in critical care and years of experience working in the ICU. Nursing critically ill patients in the ICU environment is ‘a serious matter

because patients' conditions can be really life threatening' and their conditions can deteriorate rapidly (Tang, Lin and Chan 2021:8). A nurse in Tang, Lin and Chan (2021:8) study described working in an outbreak ICU as 'facing a war' where a general ward nurse is not adequately assessed and equipped to work in the ICU. These findings resonate with that of the current study where nurses revealed that had no prior ICU qualification and experience whilst working in the ICU.

6.3.2.2 Sub-theme 2.2: The need for specialised training for nurses working in an ICU

The nature of ICU care demands specialised training for nurses. This makes adequate training imperative to work efficiently and competently in the ICU (Marks, Edwards and Jerge 2021:166). The study results indicate that none of the participants had prior ICU training before being placed in the ICU. The environment was new to most of the nurses in this study and therefore they needed a lot of theoretical and practice experience to cope and work there. This resonates with the findings of previous studies (Bastani and Bahrami 2020:4; Hu *et al*. 2020:6) that also found that most of the nurses were not well prepared for working in the ICUs during the COVID-19 pandemic. The majority of them had no training, knowledge and information about COVID-19, prognosis, mode of transmission and prevention at the commencement of their work in the ICU. This makes the need for specialised training for nurses deployed to the ICU a necessity.

A recent systematic review conducted by San Juan *et al.* (2021) on the redeployment and training of staff to the ICUs during COVID-19 reported that the pandemic presented several challenges that necessitated prompt specialised training for nurses and other healthcare professionals. The study recommended timely training for healthcare providers with great emphasis on PPEs, infection control, ICU clinical assessment, mechanical ventilation and operating advance life support technology. This finding resonates with that of this study that reported that ICU training for the deployed nurses will assist them cope and work efficiently. Marks, Edwards and Jerge, (2021:168) also concur with the study finding that a training

course was essential to prepare nurses for the management of COVID-19 patients. Allocating non-critical care nurses from other acute care settings to assist with patient care in the ICU requires training and additional clinical support (Marks, Edwards and Jerge, 2021:168).

6.3.3 Theme 3: Lack of supervision, mentorship and leadership for the deployed nurses

The study results revealed the lack of supervision, mentorship and leadership for nurses deployed to the ICU during the COVID-19 pandemic. Nurses deployed to the ICU received lack of supervision and mentorship during the pandemic. Supervision, mentorship and support from leadership were useful to guide novice and inexperienced nurses to cope, while providing care to patients during the COVID-19 pandemic. The theme is discussed under the sub-themes: 'Lack of ICU supervision or mentorship' and 'Lack of support and acknowledgement from management'.

6.3.3.1 Sub-theme 3.1: Lack of ICU supervision or mentorship

According to the study results, nurses allocated to the various ICU during the COVID-19 reported a lack supervision or mentorship while providing nursing care to infected patients. The excessive workload and high patient turnover made it impossible to receive the needed attention from shift leaders and experienced nurses. The finding agrees with that of an international cross-sectional survey conducted among physicians, nurses and other healthcare professionals that were redeployed to work in the ICU which was outside their scope of practice (Hennus *et al.* 2021:405). The study found that the amount of supervision was perceived to be lower than usual. The majority of respondents indicated that their supervisors were not readily available to assist and guide them. This could be due to the workload, where all the supervisors were also assigned to patients in the various ICUs. Hence, there was no time to supervise others. Similar to this finding Danielis *et al.* (2020:1153) also found that nurses recruited and transferred to the ICUs highlighted the need for supervision. As frontline nurses, most of the participants mentioned that

they needed adequate supervision to function properly in the ICUs. They lacked constant updates and feedback. In the ICU, managing critically ill patients require intensive and vigilant nursing care. Therefore, supervision and peer mentorship for nurses' especially inexperienced nurses and students are important. Sibiya, Ngxongo and Beepat (2018:137) described peer mentoring as a vital strategy to support nurses in the critical care setting. The support approach complemented their competence level, ability to work independently and also increased their confidence and self-esteem.

6.3.3.2 Sub-theme 3.2: Lack of support and acknowledgement from management

In this study, nurses deployed to work in the ICU expressed the lack of support and acknowledgement from management. According to the participants, support from the hospital leadership and management was necessary to help them cope with ICU activities especially during the COVID-19 pandemic. Stamps *et al* (2021:160) agree with this finding and confirm that institution leadership and management support are essential to creating a safe working environment for nursing staff where they feel protected, supported, educated and empowered. Frontline nurses, especially those deployed to work in the ICU needed assistance and support from hospital management, which in most cases was absent.

A recent multicentre, randomised controlled study also found that having the needed support and assistance gave the staff hope (Kose, Gezginci, Goktas and Murat 2022:4). The study was conducted to examine the effect of motivational messages on optimism, hopelessness and life satisfaction of nurses during the COVID-19 pandemic (Kose *et al*. 2022:4). The study found that following the conveyance of motivational messages, the life orientation and life satisfaction scores were significantly higher in the motivational group compared with the control group. Equally the level of hopelessness was also significantly lower in the motivational group compared to the control group. This finding suggests that support in the form

of motivational messages were useful. This agrees with the study finding that having support systems in place is vital, especially during crisis situations.

6.3.4 Theme 4: The psychosocial impact of the deployment of nurses to the ICU during the COVID-19 pandemic

It was highlighted in this study that the COVID-19 pandemic had a pronounced psychosocial impact on the nurses deployed into the ICU environment. The impact mentioned included the impact on nurses' emotional and mental well-being, the persistent fear of the unknown related to the COVID-19 virus and the constant feeling of insecurity due to knowledge deficiency of the COVID-19 virus. Nurses described working in the ICU as stressful which is accompanied by great emotional and mental suffering. Also, the novel nature of the virus, the incomplete understanding of the clinical course of the virus, mode of transmission and treatment modalities raised nurses' anxiety levels. There were also associated fears regarding nurses contracting the virus and infecting close relatives. The finding is consistent with that of a recent systematic review conducted by Dong *et al.* (2021:10) and a cross-sectional study conducted by Kovner *et al.* (2021: 747) in the United States (US) that found that COVID-19 had an immediate psychosocial impact on healthcare workers including nurses. Nurses working at the forefront during the COVID-19 pandemic are negatively affected mentally and emotionally (Kose *et al*. 2022).

6.3.4.1 Sub-theme 4.1: The impact on emotional and mental well-being of nurses working in the ICU

A large number of studies show that epidemics especially infectious ones are associated with a high level of mental stress, anxiety and burnout syndrome among healthcare workers (Brooks *et al*. 2018: 253; Mulfinger *et al*. 2020: 239: Spoorthy, Pratapa and Mahant 2020:3). In this current study, it was revealed that the deployment of nurses into the ICU during COVID-19 affected them emotionally and mentally. The shortage of staff, high turnover of patients and the fast-paced and demanding nature of the ICU environment made the experience a challenging and

stressful one. The finding is consistent with that of a recent systematic review conducted by Dong *et al.* (2021:10) that found that COVID-19 had an immediate psychosocial impact on healthcare workers in China including nurses. In their study, about one-third of healthcare workers especially nurses that were involved during the early epidemic of COVID-19, suffered some form of depression, anxiety and stress. Their finding also supports the statement in this study that COVID-19 had an immense psychological impact on nurses. The finding is also consistent with that of previous studies (Azoulay *et al*. 2020: 1394; Crowe, Howard and Vanderspank 2022:103241) that indicated that the pandemic has a devastating effect on nurses' mental health.

Similarly, a cross-sectional study conducted by Kovner *et al.* (2021: 747) in the US, also revealed that caring for COVID-19 patients during the first wave of the pandemic had a profound psychosocial impact on frontline nurses. The more nurses cared for COVID-19 patients, the higher their depression and anxiety levels. This confirms the findings in this study that nurses were anxious while working in the ICU for the first time. The anxiety levels were related to the hectic nature of the environment, the kind of patients that required critical care and continuous monitoring and the fear of the unknown related to the infectious nature of the COVID-19 virus.

6.3.4.2 Sub-theme 4.2: Fear of the unknown related to the COVID-19 virus

The current study found that nurses expressed fear of the unknown related to the COVID-19 virus while working in the ICU. The fear of being infected with the virus, fear of infecting family members and the fear of losing a patient on daily basis. Death was a common phenomenon and most nurses harboured fears of being the next victims either themselves or close family members. These findings harmonise with that of Tang, Lin and Chan (2021:5) where it was found that some general nurses, deployed to work in the COVID-19 ICUs, were primarily concerned about the higher risk of exposure to the virus and the possible spread to their close family members. Some nurses shared their fears of entering the outbreak units as all the patients

were COVID-19 positive. Similarly, a study conducted in Italy by Danielis *et al.* (2020:1152) also confirmed that the concerns expressed by nurses caring for COVID-19 patients were mainly due to the fear of the unknown infectious disease. They were afraid, not knowing the danger ahead while working in an outbreak COVID-19 ICU.

In Wuhan, Hu *et al* (2021:4) found that most of the frontline nurses were concerned about being infected and subsequently infecting their family members. This is consistent with the current study findings that highlighted that nurses deployed to work in the ICU were afraid of contracting the COVID-19 virus. Similarly, studies conducted in the United Kingdom (Azoulay *et al*. 2020:1392) and China (Wang *et al*. 2020:15) also concur with the study findings of the concerns of healthcare workers being infected with the virus and infecting their family members throughout the duration of their work in the ICUs. The study findings correlate with that of Kang *et al.* (2018:3) who expressed that in an infectious outbreak, there are high levels of fear and distress among nurses. Nurses are left alone in most cases when caring for infected patients in isolation. In most cases, they are confused about best practices due to the lack of clarity in clinical guidelines during an outbreak.

6.3.4.3 Sub-theme 4.3: Feelings of insecurity due to knowledge deficiency of the COVID-19 virus and its outcomes

The study findings showed that nurses deployed to work in the ICU during the COVID-19 pandemic felt insecure. The feeling of insecurity was due to the knowledge deficiency of the COVID-19 virus and its outcome. The COVID-19 was new and there was a clear lack of adequate understanding globally, concerning the aetiology, transmission and management of the COVID-19. This finding concurs with that of previous studies that described that the virus as new and there was an incomplete understanding of the clinical course (Carter and Notter 2020:2; Chan 2020:384). The pandemic was new to the entire world and most health systems in various countries. At the time, several research bodies and public health institutions were not prepared for the pandemic, and there was minimal education on the nature

of the virus, mode of transmission and treatment modalities for infected patients (Chan 2020: 383). The feeling of insecurity has been shown in a recent study conducted by Mortensen *et al.* (2022) in Sweden. Their findings confirm that health providers experienced high levels of insecurity during the initial stages of the COVID-19 pandemic.

6.4 RELEVANCE OF THE THEORETICAL FRAMEWORK TO THE STUDY

The study was guided by the Relational Model of Crisis Management developed by Jaques (2007). The model describes crisis management under four primary elements: crisis preparedness, crisis prevention, crisis incident management and post-crisis management. The relevance of the study findings is discussed in relation to the theoretical framework.

a) Crisis preparedness

The COVID-19 pandemic outbreak has been described as sudden. At the early phase of the pandemic, most public health emergency response systems were not prepared for such a disaster. As a result, disaster protocols, education and training were not adequate. In this study, it was highlighted that nurses deployed to the various ICUs had no formal training, knowledge and information about COVID-19, mode of transmission and management. They were not prepared adequately for the disaster. At the system level, there were no protocols and in-service training organised prior to their deployment into the ICU. Nurses were assigned roles that they were not adequately prepared for. Additionally, the majority of nurses had no previous ICU experience, appropriate qualifications and practical specialities to work in the ICU. Furthermore, supervision and leadership were also not well set out during the initial phase of the pandemic. There was also inadequate medical staffing and capacity to combat such a novel coronavirus outbreak.

b) Crisis prevention

Crisis prevention includes early identification of the challenges or risk to the ICU staff, patients and environment, prioritising and developing strategies to handle the staff crisis due to the disaster. At the early phase of the COVID-19 pandemic, nurses as well as other cadre of health professionals were deployed into the various care settings especially the ICU to support patient care and reduce mortality. In this study, non-critical care trained nurses were deployed into the ICU to provide nursing care to the patients. These nurses have basic nursing skills that were appropriate, especially during the up-surge of COVID-19 infected cases. Although, most of the nurses deployed were not adequately trained, it was a quick solution to prevent the disaster. It was an early strategy to handle the staffing crisis and meet the high patient turnover. The deployment also was necessary to support the existing staff available in the ICU, reduce the level of stress and also increase the nurse-to-patient ratio. Crisis prevention also includes early response in terms of infrastructure to meet the care demand. Although, there was no new infrastructure built, initiatives such as creating space for the care of COVID-19 patients were created.

c) Crisis incident management

At the latter stage of the COVID-19 pandemic, there was full recognition of the crisis. Hospital management and leadership developed temporary structures and in-service training such as infection control measures to support the hospital staff. Awareness was created to support patient care and protect the hospital staff. Quarantine and isolation measures were put in place to prevent further development of the crisis.

6.5 OVERVIEW OF THE RESULTS DISCUSSION

The aim of the study was to explore the experiences of non-critical care trained nurses deployed to work in the ICU during the COVID-19 pandemic. The objectives used to achieve this aim included: explore the experience of non-critical care trained nurses working in the ICU during the COVID-19 pandemic; establish the level of

preparedness of the nurses that were deployed and recommend strategies to assist with staff preparedness in an ICU environment for future disasters.

The discussion of the results was modelled using the Relational Model of Crisis Management developed by Jaques (2007). The four primary elements: crisis preparedness, crisis prevention, crisis incident management and post-crisis management guided the interview process, data analysis and discussion. The current study discovered that the level of crisis preparedness was inadequate. However, the deployment of nurses to the ICU was also seen as a crisis prevention measure to support patient care.

6.6 SUMMARY OF THE CHAPTER

This chapter discussed the findings that were presented in the previous chapter. The discussions of the findings were based on the themes and sub-themes that emerged during the analysis and were discussed in conjunction with the research objectives and the theoretical framework that underpinned this study. The next chapter presents the summary of findings, limitations and recommendations of the study.

CHAPTER 7: SUMMARY OF FINDINGS, CONCLUSION, LIMITATIONS AND RECOMMENDATIONS OF THE STUDY

7.1 INTRODUCTION

In Chapter 6, discussions of results were presented in order to highlight how the research questions were answered and how the objectives were achieved. This chapter presents the summary of the study findings, conclusions, limitations and the recommendations of the study.

7.2 SUMMARY OF FINDINGS

The study sought to explore the experiences of non-critical care trained nurses deployed to work in the ICU during the COVID-19 pandemic. Following individual interviews with fifteen (15) nurses and the analysis of the transcripts, four (4) main themes and nine (9) sub-themes emerged that described their experiences during their deployment into the various ICUs. Nurses were deployed to the various ICUs and worked in unfamiliar environments compared to where they were usually stationed prior to the pandemic. The deployment, although necessary to bridge the staff shortage in the ICU, limited time for these nurses to have a comprehensive and planned orientation to the ICU environment and equipment. The management of critically ill patients on sophisticated machines and using certain medications were new to most of the nurses. Additionally, the majority of these nurses were overwhelmed considering the huge responsibilities placed on them during the COVID-19 disaster.

The nature of the ICU care demanded specialised training for these nurses and the majority of the nurses had no prior ICU qualification, knowledge and skill to work efficiently in the ICU as well as the confidence to manage ICU patients. None of these nurses had formal training, knowledge and information on COVID-19, mode of transmission and prevention at the early stages of the pandemic. Their experiences in the findings of this study were described as “thrown into the deep end to suffer”. They received lack of supervision, mentorship and leadership during

their stay in the various ICUs. The need for supervision was obvious but there was no time for such, as experienced nurses and unit managers were all the field saving lives. Support from the institution's leadership and management were also lacking during the early parts of the COVID-19 pandemic. Senior management were not available to support deployed nurses at the bedside. These support systems were necessary to create a safe working environment for the nursing staff, where they would feel protected, supported, educated and empowered. Unfortunately, they were left alone to deal with the situation.

The COVID-19 pandemic also had a pronounced psychosocial impact on nurses while working in the various ICUs. There was a reported impacted on their emotional and mental well-being. Emotionally, it was draining, sad and stressful for these nurses. The majority of these nurses were exhausted and overwhelmed, having to provide care for patients in continuous successions. Mentally, they were not prepared for such traumatic experiences. There were high levels of mental stress, anxiety and burnout among nurses. These were due to the shortage of staff, high turnover of patients and the fast-paced and demanding nature of the ICU environment.

Lastly, the study findings indicated that the deployment to the ICU came along with some associated fears. There was reported fear of contracting the COVID-19 virus; fear of infecting family members; fear of completing daily tasks and even losing patients. Death was a common phenomenon and most nurses harboured fears of being the next victims, either themselves or close family members. Due to the novel nature of the COVID-19 pandemic, it was reported that there were feelings of insecurity among these nurses. The insecurity was due to the lack of knowledge on the virus.

7.3 LIMITATIONS OF THE STUDY

Limitations are constraints or barriers that challenges credibility of the study results. These could be the research design, sampling procedures, sample size and data collection approach. In this study, the following limitations included:

- In the beginning of the interview process the participants were reserved and not willing to open up. It did improve during the interview process and as the interviewer and participant created a rapport.
- The study sample was limited to one private hospital. Therefore, the findings in this study cannot be generalised to all private hospitals.

7.4 RECOMMENDATIONS OF THE STUDY

Based on the study findings, the following recommendations are made with reference to institutional management and practice, nursing education, policy development and implementation and further research.

7.4.1 Institutional management and practice

- Psychological support for staff to be made readily available.
- There should be ongoing in-service training and lectures on disaster planning and management, especially on infectious and non-infectious disasters
- The need for supervision, peer-mentorship and a support system in the ICU.
- Disaster management training for all staff in the hospital.
- Institutional leadership and management support to be readily available to create a safe working environment for the nursing staff.
- A specialised training programme to be developed on caring for ICU patients and the use of ICU equipment for all healthcare providers, who are deployed to the ICU.

7.4.2 Nursing education

- Institute regular refresher courses in disaster management that should be made compulsory for all staff to attend, in view of managing future pandemics.
- Include modules on disaster management in undergraduate and post-graduate nursing curricula.

7.4.3 Policy development and implementation

- Develop clear disaster policies and guidelines and make it readily available for staff at hospital level.
- Management to develop and communicate disaster protocols to the various units in the hospital.
- Develop and implement a structured orientation programme for the placement of nurses into the various units in the hospital, especially in instances where rotations are made and deployments necessary

7.4.4 Further research

The researcher suggests that further research on this topic be conducted on a wider scale to include academic and government hospitals. The researcher recommends that similar studies can be carried out using a larger sample size to establish a more general view, using public hospitals as a sample.

7.5 CONCLUSION

The deployment into unfamiliar units such as ICUs has placed a huge responsibility on non-critical care trained nurses. The study revealed that prior to the deployment, nurses had no prior ICU qualification, experience and knowledge to work in the ICU. They received no supervision, mentorship and support from management while working in the ICU. These had a great psychosocial impact of their emotional and mental well-being. There is therefore the need to support nurses through frequent education and training especially for disaster management. The development and implementation of a structured orientation programme for the placement of nurses into the various units in the hospital will be a good starting point.

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APPENDICES

Appendix 1: DUT Ethics Clearance Certificate

Institutional Research Ethics Committee
Research and Postgraduate Support Directorate
2nd Floor, Berwyn Court
Gate 1, Steve Biko Campus
Durban University of Technology

P O Box 1334, Durban, South Africa, 4001

Tel: 031 373 2375
Email: lavishad@dut.ac.za
http://www.dut.ac.za/research/institutional_research_ethics

www.dut.ac.za

21 December 2021

Mrs R Sivnarain
129 Sirkhod Road
Orient Heights
Pietermaritzburg
3201

Dear Mrs Sivnarain

Experiences of non-critical care trained professional nurses deployed to work in the ICU during the COVID-19 pandemic
Ethical Clearance number **IREC 231/21**

The Institutional Research Ethics Committee acknowledges receipt of your gatekeeper permission letter.

Please note that FULL APPROVAL is granted to your research proposal. You may proceed with data collection.

Any adverse events [serious or minor] which occur in connection with this study and/or which may alter its ethical consideration must be reported to the IREC according to the IREC Standard Operating Procedures (SOP's).

Please note that any deviations from the approved proposal require the approval of the IREC as outlined in the IREC SOP's.

Yours Sincerely

Prof J K Adam
Chairperson: IREC

Appendix 2a: Letter of request for gatekeeper permission from the Ethics Board

Daymed Private Hospital
595 Chota Motala Road
Pietermaritzburg
3201
3 May 2021

Re: Request for Permission to Conduct Research

Dear Sir/Madam

My name is Rena Sivnarain, a Masters student at the Durban University of Technology. My research topic that I I wish to conduct for my Masters dissertation is "Experiences of non-critical care trained professional nurses deployed to work in the ICU during the COVID-19 pandemic."

I am hereby seeking your consent to conduct research in the hospital.

I have provided you with a copy of my proposal which includes copies of the data collection tools and consent forms to be used in the research process, as well as a copy of the approval letter which I received from the Institutional Research Ethics Committee.

If you require any further information, please do not hesitate to contact me on by email: renasivnarain@gmail.com or cell number: 0740236666. Thank you for your time and consideration in this matter.

Yours sincerely,
Rena Sivnarain
Durban University of Technology

Appendix 2b: Approval letter

DAYMED
PRIVATE HOSPITAL

595 Chota Motala Road
Raisethorpe
Pietermaritzburg
3201
PR Number: 0770973

Phone: 033 3871100
email: info@daymed.co.za
Fax Number: 033 3970090
Website: www.daymed.co.za

Letter Confirming Knowledge of Non – Trial Research To Be Conducted in the Facility

Dear Rena Sivnarain

Re: Experiences on Non – Critical care Trained Professional Nurses Deployed to work in the ICU during The Covid -19 Pandemic.

I hereby confirm knowledge of the above mentioned research and grant you consent to proceed with your study.

Kind regards and best wishes for a successful study.

Leah Naidoo
Manager

Date: 20/12/2021

Appendix 3: Letter of information for the interview participants

LETTER OF INFORMATION

Title of the Research Study: Experiences of non-critical care trained professional nurses deployed to work in the ICU during the COVID-19 pandemic.

Principal Investigator/s/researcher: Mrs. Rena Sivnarain (Masters of Health Science Candidate)

Co-Investigator/s/supervisor/s: (Supervisors) Dr V. Naidoo and Dr N. Zikalala (Doctorate in Health Science)

Brief Introduction and Purpose of the Study: The outbreak of the Coronavirus disease 2019 (COVID-19) has touched every level of society across the world. The pandemic has necessitated an early and emergency response at the global, national, regional and local levels. Majority of healthcare professionals, especially some nurses, were transferred from acute care settings and outpatient department into technical environments such as the intensive care unit and theatre to play specific roles and save lives. The sudden transfers and re-allocations of these nurses were necessary to curtail the spread of the virus. However, these changes were unexpected, and the majority of nurses had no previous experience and limited training on disaster preparedness and management. The study intends to explore the perspectives of nurses deployed to work in the intensive care units during the COVID-19 pandemic. The objectives of the study will be to assess nurses level of preparedness for the COVID-19, describe the difficulties nurses temporary placed in the ICU face during the COVID-19 and understand the effect their level of preparedness for COVID-19 have on patient care.

Greeting Good day, Warm greetings to you.

Introduce yourself to the participant: My name is Rena Sivnarain, I am a 2nd year student at DUT doing research for my Masters degree in Health Sciences.

Invitation to the potential participant I would like to invite you to participate in the research.

What is Research: Research is a systematic search or enquiry for generalised new knowledge. Research entails collecting of data; documenting, analysis and interpretation of the data collected. There are different methods of data collection. The study of note is an interview. The interview will be conducted in English. You may ask as many questions as required so that you are comfortable and have an understanding of the study. You are entitled to discuss the study with your family hence you are not obligated to commit at this stage. Therefore, a copy of this Letter of Information document will be given to you to take home.

Outline of the Procedures: Permission from the Durban University of Technology will be obtained by the researcher to recruit you as a participant. Furthermore, permission will be obtained from your head of Department to recruit you as a participant. You are required to complete the consent form attached to this document to consent to partaking in this study. This research population includes nursing staff that assisted in the ICU during the Covid-19 pandemic and excludes any other group of healthcare workers that did not work in the ICU. The data collection tool is an interview including collection of demographic data within a duration of 20-30 minutes which will be done during your working shift in your department. Your responses will be documented by the interviewer. All information given will be confidential. You may withdraw from the interview at any time.

Risks or Discomforts to the Participant: There are no risks to you.

Explain to the participant the reasons he/she may be withdraw from the Study: Participation is voluntary. You may decide to withdraw from this study at any time by advising the researcher. There will be no consequences to you should you wish to withdraw. The researcher may withdraw you from the study due to non-compliance, an adverse event or in the event of you being ill and cannot complete the interview.

Benefits: The findings from this study will help understand the multiple roles professional and non-critical care nurses assume during the COVID-19 pandemic, their expressed perspectives on the level of disaster response and management. The study findings will also highlight on the education and training during COVID-19 and the challenges faced along the period. This will be useful for the development of interventions to assist in the training and education of nurses on disaster preparedness and management. The findings will also guide the healthcare systems to make improvement in institutional and administrative areas that will help improve future public health emergencies.

Remuneration: There will be no remuneration to you for partaking in the study.

Costs of the Study: There are no costs to you partaking in this study.

Confidentiality: Your participation in this study is voluntary. It will involve an interview of approximately 20 – 30 minutes in length to take place in the hospital during work hours by a specified time agreed by both of us. You may decline to answer any of the interview questions if you so wish I will be writing the responses of the interview on a guide solely as a form of record keeping and referral for the study. At the end of the interview, I will afford you an opportunity to confirm the accuracy of our conversation and to add or clarify any points that you wish. All information you provide is considered completely confidential. Your name will not appear on the interview guide, you will be allocated a number. Neither will your details be in any report that will result from this study, however, with your permission anonymous quotations may be used. Data collected during this study will be retained for a period of five years in my locked cupboard. Only researchers associated with this project will have access.

Results: The researcher plans to disseminate the results of the research according to DUT standards. If any significant new findings developed during the course of the research you will be contacted via your employer.

Research-related Injury: There are nil anticipated**.**

Storage of all electronic and hard copies including tape recordings: Hard copy of the interview guide and demographic data will be stored in a locked cupboard in the supervisor's office or in a locked cupboard in the researcher's home for a period of 5 years. Only the researcher and supervisor will have access to the data. The data will be securely shredded after 5 years. Electronic data will be password protected and stored on a secure laptop. Only the researcher and supervisor will have access to the data. Data will be securely deleted after 5 years.

Persons to contact in the Event of Any Problems or Queries:
Please contact the researcher, Mrs Rena Sivnarain (0740236666) my supervisor Dr V Naidoo (0825191550) or the Institutional Research Ethics Administrator on 031 373 2375. Complaints can be reported to the Director: Research and Postgraduate Support Dr L Linganiso on 031 373 2577 or researchdirector@dut.ac.za.

Appendix 4: Letter of Consent

CONSENT

Statement of Agreement to Participate in the Research Study:

- I hereby confirm that I have been informed by the researcher, Rena Sivnarain about the nature, conduct, benefits and risks of this study - Research Ethics Clearance Number: _____,
- I have also received, read and understood the above written information (Participant Letter of Information) regarding the study.
- I am aware that the results of the study, including personal details regarding my sex, age, date of birth, initials and diagnosis will be anonymously processed into a study report.
- In view of the requirements of research, I agree that the data collected during this study can be processed in a computerised system by the researcher.
- I may, at any stage, without prejudice, withdraw my consent and participation in the study.
- I have had sufficient opportunity to ask questions and (of my own free will) declare myself prepared to participate in the study.
- I understand that significant new findings developed during the course of this research which may relate to my participation will be made available to me.

_____	_____	_____	_____
Full Name of Participant	**Date**	**Time**	**Signature / Right Thumbprint**

I, _____ (name of researcher) herewith confirm that the above participant has been fully informed about the nature, conduct and risks of the above study.

Rena Sivnarain	_____	_____
Full Name of Researcher	**Date**	**Signature**
_____	_____	_____
Full Name of Witness (If applicable)	**Date**	**Signature**
_____	_____	_____
Full Name of Legal Guardian (If applicable)	**Date**	**Signature**

Appendix 5a: Demographic data for the interview participants

PARTICIPANT DEMOGRAPHIC QUESTIONNAIRE

Title: Experiences of non-critical care trained professional nurses deployed to work in the ICU during the COVID-19 pandemic. .

SECTION 1: DEMOGRAPHIC DATA

1. Gender

Male	Female

2. Age

20-29 years	
30-39 years	
40-49 years	
50-59 years	
Above 60 years	

3. Ethnic Group

Indian	White	Black	Coloured

4. Years of Nursing experience

<1 year	
1-5 years	
6-10 years	
11-15 years	
16-20 years	
>20 years	

5. What is your highest level of qualification

Diploma	
Advanced diploma	
Degree	
Post-graduate diploma	
Masters	

Appendix 5b: Interview Guide

Title of Study: Experiences of non-critical care trained professional nurses deployed to work in the ICU during the COVID-19 pandemic.

The following questions will be used by the researcher to guide the interview process that is aligned to the theoretical framework

The following questions will be used by the researcher to guide the interview process:

1. How long have you been working as a nurse?
2. What is your highest nursing qualification obtained?
3. How did you feel when you were asked to help out in the critical care unit during the Covid-19 pandemic?
4. Was there any type of education and training offered to you to equip you to work in the critical care unit?
5. If yes, was the education and training adequate to prepare you to perform your nursing duties safely in the intensive care units?
6. Was there any supervision available to you during your time in the critical care unit?
7. How did you cope working with Covid-19 patients?
8. Did your experience in nursing equip you sufficiently to work in this critical care unit?
9. Describe your emotional experience whilst working in the critical care unit during this pandemic?
10. What were some of the difficult tasks you had to undertake during your nursing experience?

Appendix 6: Sample of transcripts

Transcript 3

Good afternoon. I do thank you for being part of the study. I appreciate your time given. I will be asking you a couple of questions. Please feel free to share your experiences with me. So, the focus of the study is to explore the experiences of non-critically care trained professional nurses deployed to work in the ICU during the COVID 19 pandemic. Are you fine for me to proceed to the years?

No problem.

So, the outbreak of the corona virus in 2019 has touched many lives and touch the world. So, I just like you to share your experiences been deployed to work in the ICU during this time. I would like to start off by asking you how long have you been working as a professional nurse?

I have been a professional nurse for 15 years

Okay. And your highest qualifications that you update?

General Nurse

So being deployed to work in the ICU during the COVID 19 pandemic. How did you feel when you were asked to go and work in ICU?

It was very overwhelming, but traumatic also especially during COVID outbreak, not knowing much about the ICU environment, and going there and seeing all the machines and seeing all the equipment, the different equipment of which I had no idea how to use and the ventilator was also very difficult to even look at that point.

I can imagine

So it was very overwhelming and it took a very long time to get used to and to learn. And in the ICU situation, you can never know everything as you always still learning.

Most definitely. So, prior to been asked to work in the ICU, was there any type of training or education that was offered or given to you?

No, there was training. It was it was during a very difficult period that they asked me to go and work in ICU. There was a lot of shortage of staff. So I was asked, Well, I wouldn't even say asked, I was expected to go being permanently employed, you are moved to wherever

you are needed. So even without the knowledge or the experience in ICU, we're expected to go and work there, obviously, under supervision but because of the business of the department and the shortage of staff, it was very minimal supervision.

Okay, so you'd say there was very minimal, minimal supervision?

Yeah, only in a crisis situation when you're going call a supervisor they will come because they also have their own patients to take care of and supervising so many other nurses.

How did you feel or how did you cope working with these COVID-19 patients?

It was emotionally tasking, because firstly, you were afraid for yourself. Even though you are taught on how to dawn gloves and use your PPE and be safe and all of that but you know sometimes mistake can happen. Its human nature mistakes happen and so there is fear for yourself. And then fear of taking COVID to your family. Not being not being able to visit your elderly parents because you're afraid that if by some chance you contact COVID you're going to be taking it home to them. And then also pets, and as much as they say that the COVID can't, you can transfer over to a pet but the may not necessarily get ill with COVID but other people can pick up COVID from your pets. So now you have to worry about touching your pets because the rest of your family also touching your pets. So it's a whole different area. I think COVID is like nobody was trained to deal with COVID. So apart from ICU then this COVID It's different. It was difficult to cope.

Okay, so did your experience in nursing sufficiently equip you; you said 15 years of experience?

As a general nurse in the general ward and ICU is very different because they have many invasive drugs that they use. Very invasive equipment that they use of which there wasn't any training. I mean, for example, the high flow machines. It took some time to troubleshoot those machines to figure out if there's a problem, what's wrong with the machine. And sometime by the time you reach the shit leader, there's a problem with the machine. It's alarming continually; by the time you reach the shift leader, the patient is already arrested, you know. And I mean it could be a simple thing like this the nasal cannula been kinked in the nostril or something like that but because you're not experienced enough you don't know the machine; you don't know these things can happen. You don't know where to look and what to look for. So, you running towards the shift leader by the time you get to the shift leader. The shift leader arrives, you a pool on resuscitation.

It must be a really difficult time. How was your emotional experience while working there in the ICU?

You know so many feelings. It was fear, anger, sadness, fear, obviously losing patients during COVID time as well as contracting COVID and taking it to your family. Anger because you were working with shortage of staff during the period and I mean it's such a specialised units and there's only staff apart from myself who don't really know. They just been put there expected to work under supervision with minimal supervision. So, I mean, there were facilitators that would come and teach and staff but they are also overwhelmed because they also have so many students, so many people to teach and I mean there's donning and doffing to teach as well to familiarize the people and that's always the time for the ICU training, you know, so yeah, so there were a lot of feelings. It was difficult emotionally

I can see it has affected you; some of the difficult tasks that you had to undertake during this time?

Okay, initially when I started, I mean there's so many things. It was like a rash situation because most of the patients were critically ill coming in with COVID needing to put in lines, preparation for the doctors of putting in central lines; A lines; hemodialysis catheters. So, you have to know how to set up for them, what drugs they need means. Even ventilation as much as the supervisors are there and assisting you when she can. And it's a frustration with the doctors also because you knew and they had to wait for you so yeah, so that's the, it was difficult. It took some time to learn. I may not know everything but I have learned a lot. I have developed working in the environment. But it was a very traumatizing experience getting to where I am now.

So, in the future, what are some of the recommendations that you think should be made? So, in order to better equip oneself in a COVID disaster. What changes should happen in future to better equip somebody who is placed there?

It is a difficult question because it may not necessarily be COVID I mean, people are now equipped for COVID now, you know how to handle COVID without PPE, and I think people are less afraid now with the vaccines that everybody has, has gotten. Obviously not less afraid that they wouldn’t wear PPE. Everybody is still donning and doffing PPE because it's still there is still the fear of contracting COVID.

But when it comes to preparing in the future, it's hard to say that you can really prepare for a pandemic because you don't know what kind of pandemic you going to be expecting. And all infections are different. Or you know, how it affects you, how you contract it and how you

so it's hard to say, unless you know what you're dealing with? I mean if you know what you're dealing with then, obviously in-services training for the nurses on a daily basis, like you know,

So, in future do you think someone who's got no experience to be placed there?

No, I don't think so

How can you get that person equipped?

I think well if, if a nurse has been placed in that kind of situation, they should be placed with somebody, senior first, to learn the rules properly. I know it's difficult, because, like I said, there is no staff. So, you are just pushed in the deep end and expected to learn, but maybe they can be preparations for times like this where there is more staff somehow to support staff and so that they can be adequate teaching and supervision because basically you just need more supervision you need to feel safe in the environment, knowing that that you have that supervision and you have somebody there so because should something go wrong. Who's taking responsibility for that? I'm not ICU specialised, and I know I went to work there but I went to work there because my management asked me to go and work there because the situation. So, should I have done something wrong? Because I'm not trained for it? Who's going to take responsibility for that?

It's a difficult situation to put myself here.

As much as you can say it's a pandemic and stuff we also have to take into reality we are looking after people’s lives.

Okay, thank you so much for giving me this time and to interview you. I really appreciate the time taken and I will be sharing my results with you and your time. Thank you so much.

Transcript 4

Good afternoon.

Good afternoon.

I do thank you for being part of the study. I really appreciate the time you have given. I will ask you a couple of questions please feel free to share your experiences. So the focus of the study, as you saw from the information sheet is to explore the experiences of non-critical care trained professional nurses deployed to work in the ICU during the COVID 19 pandemic. Are you fine for me to proceed to the interview?

Yes.

Okay. So can you tell me how many years of experience you have as a nurse?

Yes, I would say it's roughly about 19 years

And your highest qualification.

I have a diploma in general nursing sciences.

Okay. So the outbreak of the corona virus in 2019 has touched a lot of people and you were deployed to work in the intensive care unit during this pandemic. How did you feel when you were asked to go and help out the intensive care units?

Well, actually, at first, I was quite afraid. And due to fear, I was a little bit apprehensive because it's a completely new environment from what I am used to working in so I was very nervous. I was scared at times. I felt like doubtful within myself because an intensive care unit is specialised unit that require specialised nursing skills and where I was coming from, I don't have any experience in that department. And so yeah, it was quite I would say, like an eye opener. And a whole new world on its own I would say.

So quite a different experience?

Actually. Yes, very different. And it was fear of the unknown. Because, I mean, when anybody thinks ICU it's like ICU, the highest level of care and the more sickest people in the hospital. So I think that alone is like a huge responsibility to take upon your mind at first to grasp before even getting there. You know, when you are just told, you are allocated now that you are, you have to go and work and it's a pandemic on top of it. So as it is, you are so stressed. And it's like, your mind goes to; I will say I was feeling like, like there was a

storm going in there because I didn't know what to expect, you know, going in. So at first I would say I felt like a brand new nurse out of college. Yeah.

So that was quite an experience. Prior to you being asked to go and work in the ICU, was the type of training or education that was given to you to equip you to work in the unit?

Actually, not really, well, just from past experience of transferring patients to ICU, well, that's the only time that we would get to see the inside of an ICU actually. When our patients get transferred there. However, now during the pandemic, yes, the facility was offering crash courses. But when I say crash courses, it was like more in-service trainings, a day course, you know, just with regards to the equipment in the ICU, introducing you to the environment and I wouldn't actually say full on training. So more like more like, like an in service.

Okay, so you did have a short maybe..

Very short in-service, it was like, if I can remember at the very beginning when the situation we could foresee was going to get like serious. There was like a two day course that was organised by the hospital and clinical facilitators and staff. Because obviously ICU has different medication, different equipment, which, for example, a ventilator, has different types of patients because you are nursing different conditions. So yeah, but however, that course is just a two day course. You must remember you get specialised nurses who do a full on training in ICU, it's a speciality in comparison to the training that these nurses go through. And for you to like try and fit this into two-day period or six-hour in service, I just feel is insufficient for you.

So you'd say this training wasn't, I did not adequately prepare you to know.

I would say actually no, it didn't adequately prep me. And you know like, how can I say, prepare me for what was expected and for the type of scenarios that I was going to be faced with. So like, I mean, every person is different. So an ICU nurse is different. You know, it is critical thinking. So that takes a lot of experience and a lot of theoretical and practical experience on a daily basis. So like these short courses and one or two day courses were just not adequate enough to equip me you know to work efficiently I would say. Okay.

Was there any supervision available to you during this time working in the ICU?

Well, you know, if was a pandemic, you'd have to be honest. And although there was a shift leader, however, and the unit manager, but a shift leader who is on the clinical aspects had patients of her own. There are other ICU trained nurses there, but you must remember due

to the high demand of patients there; the shortage of staff, they were overwhelmed themselves so they were nursing like 2 or 3 ventilated patients themselves. So I would say like, there was no time for somebody to you know, show you from the beginning as to or properly orientate you to know exactly what to do from start to finish and also, there was no proper guidance. You have to go in there, do what you needed to do, learn on the spot, if you could. And, yeah, so it was like, if I was very pressurizing, I would say, because no one had the time to you know, hold you by the hand and teach you. And I will say that, you know, that was like, it was very unsettling for myself. You know, although I'm a professional nurse, but I just feel like it was very scary. I needed that support. I didn't get that support at that time. I understand because it was very, very busy. I mean, they were doctors all the time. There were things needing to be done, you know, so nobody really had the time to sit down and tell you, you know what you had to look at it and see from the next person, okay, this is how we do this procedure or how we prepared or if you have the time you have to go open up a policy, which sometimes isn't, is not feasible, exactly. Right, although there are policies, but no one has a time when you're working under pressure.

How did you cope working with this COVID patients?

Well, COVID itself obviously, I would say, in my personal capacity, it was very, very scary. Because I mean, COVID is it is a disease and it's a virus that was killing people. There's no cure. So I was very scared. I was emotionally stressed out. I was how can I say insecure about myself. I was scared to go in there thinking what if I'm going to get sick or if I'm going to go home and give this to my family? Or there were so many mixed emotions going through my mind. But the biggest, I would say is fear. Fear. It's fear of the unknown because we don't know what COVID is. And we don't know what to do, what to expect so like, you know, it's a new situation that you have to learn about. But obviously, when you don't know about something, it's going to scare you. Yeah, your first instinct is to scare and another thing that I also found that at first obviously I was a little bit apprehensive because of being COVID, because you do. I wouldn't say resistance but you're apprehensive. You don't know what to expect. Yeah. The fear of the unknown.

Okay, did your experience you said 19 years of experience in nursing equip you sufficiently to work in the ICU?

I won't say in certain instances with generalised standards, like standards and protocols but obviously being an ICU there is more expected of you. Yes. Yeah. So, yes, being a professional nurse, I do have my experience because of where I'm coming from, but not for an ICU, let's be honest, because a ventilator patient for example, I mean, there is a

ventilator, there is values that you have to learn, that you have to keep within. All that we were not exposed to prior to that. There's new medication that you've got to mix and you've got to monitor a patient for their reaction towards it. So like all of that there. I do not have you know, experience of previously because of where I'm coming from my previous department that I'm working in. So like no, I wouldn't say that. I would just say, I don't have ICU experience. Yes. Yeah. Basically. I have no nursing experience. So it's difficult, very difficult.

How would you describe your emotional experience while working in the ICU during the pandemic?

Well, emotionally I'm going to be honest, the first was anger. Yeah. Because anger in the sense that we are now thrown into the deep end. You must remember, our profession we belong to a professional body, we are responsible for acts and omissions. So now we are expected to do something that is like totally out of our, I will say scope of practice because I'm not specialised in that unit. So yeah, I was I was a bit upset, I was a bit angry. But however, emotionally I was saddened by the patients around us and also it's very stressful because death and dying was experienced on a daily basis. You know, and emotionally it drained me that when someone is so sick, and if they are dying, their loved ones couldn't be with them. So that also took you know, emotional toll on me because I'm a family person. And I'm throwing myself into this situation. And if I get sick, what happens to me and my family. Yea, so I'm gonna be honest, I was I think I was more angry at first. I was a little scared. It was a whole turmoil of emotions. Yeah. I felt insecure been in a foreign department. Insecurity Yeah. What else can I tell you? You know, you feel at times also not supported because there is no one to like, guide you and show you because everyone is so busy around there. So there was no support, I mean, emotionally, physically, because everyone is also stressed out themselves, given the situation that you have to walk under.

Okay. What are some of the difficult tasks that you have to undertake whiles working in the ICU?

Well, for me, the most difficult thing was to fast-paced, how can I say because you know, some of the units and the turnover of the unit with regards to patients coming in and sick patients and you know, you have to act fast because these patient's condition would deteriorate so fast. And you know, at the back of your mind that if you don't do what you need to do, this person can lose their life. And the thing is that you have doctors that are also stressed out and they are rushing and giving you orders. And the thing of being short staffed, you tired yourself, you're stressed. You know that? The biggest fear is that in one

day, you're not going to accomplish all your tasks. So like for me, time management, I felt it didn't exist. Because you couldn't take find enough hours in a day to complete a task you just fell today was short enough. Yeah. So in that aspect, I would say time was a problem. The time was a problem. And yeah, the busyness

Most definitely. Okay. Looking back now, would you make any changes or have any recommendations that can you know, things can be done differently when someone who's deployed now to the ICU? Any recommendations or changes?

I think in all aspects if there's a specialised unit in the hospital, everyone needs to be familiarized with that because like now with a state of emergency in a pandemic, you're required to go and work there. So I think facilities should run programs, maybe every quarter of a year and rotate staff so they are aware of the environment, they are aware of what the procedures are, the policies of that situation. Like for example, just the basic like concept, you know, continuing programs of basic life support, or resuscitation of a patient or simple things of how to like, which was expected of us to set up for ventilation and intubation and for patients. You know, also medication workshops because ICU uses very, very important, dangerous drugs. You can call it dangerous if it's misused, and if you don't know how to use it properly and monitor for side effects. So concurrent, I would say rotation, in-service training and programs. And yeah, I just think staff needs to be rotated so they're not thrown into the deep end when the need arises for them to work. And they're not so apprehensive and scared. So they can go there at least, you know, be helpful, you know? Yeah.

Okay. Uh, thank you so much for this interview. I really appreciate the time you have given. I will be sharing my results with you in due time. Thank you so much. You're welcome.

Appendix 7: Certificate from Professional editor

EDITING / PROOFREADING CERTIFICATE

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This is to certify that the above manuscript has been proofread and edited for English language grammar, punctuation, spelling, writing style, clarity, sentence structure and layout. The document is formatted according to the institutions requirements and guidelines. The logical presentation of ideas and the structure of the paper were also checked during the editing process. Neither the research content nor the author's intentions were altered in any way during the editing process.

I am a freelance editor specialising in proofreading and editing academic documents. All amendments were tracked with the Microsoft Word " Track Changes " feature and the document was returned to the author.The author has the option of accepting or rejecting each change individually. The author remains responsible for the correct application of the changes in the text and references.

I wish the author all the best.

28 September 2022

DR N. NARANJEE **DATE**

Appendix 8: Turnitin report