PREVALENCE AND CATEGORIES OF PSYCHOSOCIAL CHALLENGES ENCOUNTERED BY CRITICAL CARE NURSES CARING FOR PATIENTS WITH COVID-19 AT KENYATTA NATIONAL HOSPITAL CRITICAL CARE UNITS

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Care) Degree of The University of Nairobi**

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DECLARATION

I Joan Gakenia Ricarda, declare that this project has not been previously submitted and approved for the award of a degree by this or any other University. To the best of my knowledge and belief, the project contains no material previously published or written by another person except where due reference is made in the research itself.

Signature……………………………………………. Date……29|11|2022…………

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DEDICATION

I would like to dedicate this achievement to my mother Ricarda Wandia Munyiri who taught me the essence of education from a tender age and her unwavering support through and through.

To my extended family, friends and colleagues for your prayers, encouragement and support throughout the period of my study.

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LIST OF ABBREVIATIONS

ARDS   Acute Respiratory Distress Syndrome

CCU   Critical care unit

COVID-19   Coronavirus disease of 2019

HCWS   Healthcare Workers

HFNC   High-Flow Nasal Cannula

ICN   International Council of Nurses

ICU   Intensive Care Unit

JDC   Job Demand Control

JDCM   Job Demand Control Model

KNH   Kenyatta National Hospital

MoH   Ministry of Health

NIV   Non-Invasive Ventilation

PPE   Personal Protective Equipment

PTSD   Posttraumatic Stress Disorder

SARS-CoV-2 Severe acute respiratory syndrome coronavirus 2

SPSS Statistical Package for the Social Sciences

UK United Kingdom

USA United States of America

WHO World Health Organization

DEFINITION OF TERMS

Caring: This refers to assessment, implementation and coordination of COVID-19 patient care by critical care nurses.

Categories: This refers to the various domains of psychosocial challenges encountered by critical care nurses caring for patients. It included psychological challenges, physical challenges and social challenges.

Critical Care Nurses: Refers to the licensed nurses working in medical critical care units at KNH who provide crucial care by monitoring and treating patients with life-threatening illnesses such as COVID-19.

Critical Care Units: Department in the hospital where care for people who have life-threatening injuries and illnesses such as COVID-19 takes place. These units were designated by the hospital as CCUs.

COVID-19: An illness caused by a novel coronavirus called severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2).

Patients with Covid-19: These are persons who tested positive for SARS-CoV-2 confirmed by tests in KNH or elsewhere and who are admitted in critical care unit at KNH.

Physical challenges: This referred to the undesirable bodily consequences experienced by CCNs caring for COVID-19 patients. This included such experiences as sleep disturbances, headaches, discomfort, exhaustion, and breathlessness.

Prevalence: This refers to the proportion of critical care nurses who experienced psychosocial challenges as a function of the total. It was expressed as a percentage.

Psychological challenges: This refers to CCNs negative mental or emotional experiences while caring for COVID-19 patients. This included stress, PTSD, depression, emotional exhaustion, and anxiety.

Social challenges: This referred to the adverse human interactions experienced by critical care nurses working with covid-19 patients within KNH/Medical CCUs. This included stigma, social isolation, conflicts with colleagues, strained interactions with others and isolation/loneliness.

ABSTRACT

Introduction: Infection with COVID-19 may require care in the Critical Care Unit (CCU). The pandemic necessitated expanded CCU capacity, as well as specialised CCU personnel to care for critically sick patients as the pandemic grew in severity. As a consequence of caring for COVID-19 patients in a stressful CCU setting, CCNs are reported to be enduring severe psychological and physical impacts.

Objective: To establish the prevalence and categories of the psychosocial challenges encountered by critical care nurses caring for patients with COVID-19 at Kenyatta National Hospital critical care units.

Methodology: A descriptive cross-sectional research design was used in this investigation. Critical care nurses involved in care of COVID-19 patients comprised the population of this study. A sample of 39 respondents, selected by census sampling method was included. A self-administered questionnaire was used to collect data. The questionnaire was pre-tested at Kenyatta National Hospitals' Main CCU before data collection as the Critical Care nurses in the Main CCU had occasionally cared for COVID-19 patients. The questionnaire was distributed electronically using Microsoft Forms 365 app. Data was analysed using descriptive and chi-square analysis using SPSS version 28. Descriptive statistics were important in establishing demographic characteristics of respondents, psychological challenges, physical challenges and social challenges. To establish relationships between variables, chi-square tests were carried out. Chi-square tests were conducted at 95% confidence interval whereby significant relationships were established using p-value 0.05 as the critical value. Tables were employed in displaying the findings. The study adhered to the ethical principles of respect for persons, beneficence justice, non-maleficence, anonymity and confidentiality.

Results: The prevalence of psychological, physical and sociological challenges was 31 (79.5%), 7(17.9%) and 30 (76.9%) respectively. There was a significant association ($\chi2$ =9.340, df=3, p= 0.025) between respondents' age and presence of physical challenges.

Conclusion: The prevalence of psychological, physical and sociological challenges was high among critical care nurses caring for patients with COVID-19 at Kenyatta National Hospital with psychological challenges being notably high at 79.5%. The management of KNH ought to institute strategies for identifying nurses and other health professionals facing various associated challenges, especially psychological and social challenges and proactively put in place support systems to mitigate such challenges.

1.0 CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Coronavirus disease 2019 (COVID-19) is a respiratory illness caused by the severe acute respiratory syndrome coronavirus 2 (Sars-Cov-2) (Sim & How, 2020; Coppock et al., 2021). The first case in Kenya was discovered on March 13th, 2020 (Ministry of Health [MoH], 2020; World Health Organisation [WHO], 2022). During that time period, the country has had 338,647 cases of coronavirus and documented 5678 deaths. An infection with COVID-19 may cause severe respiratory disease that may necessitate intensive care unit (ICU) treatment. Between 4% and 32% of patients with life-threatening illnesses required admission to an ICU (Thomson et al., 2020). Acute respiratory distress syndrome (ARDS) and multiple organ failure are the leading causes of morbidity and death in COVID-19. Critically sick individuals with the condition may also have cardiac, hepatic, renal and central nervous system illness in addition to pulmonary disease (Kang & Shin, 2020; Sezgin, Dost & Esin, 2021).

Critical care nurses (CCNs) are required to respond to large-scale public health emergencies like COVID-19 in a focused and extremely demanding manner (Alharbi, Jackson & Usher, 2020; Gordon, Magbee & Yoder, 2021). The majority of healthcare practitioners are nurses, and they play a vital role in disaster response and treatment (Lucchini, Iozzo & Bambi, 2020; Moradi et al., 2021). The COVID-19 pandemic crisis has presented nurses with unprecedented problems, including high death rates, massive patient volumes with emergent conditions, few resources and inadequate personal protective equipment (PPE) (Alharbi et al., 2020; Anastacio, 2020). Additionally, nurses' work might put them at greater risk of

infection, which can have negative effects on their physical and mental health. As Andlib et al. (2020) and Alharbi et al. (2020) report, nurses may be more vulnerable to burnout and psychological discomfort during epidemics.

As they deal with patients in their most critical condition, critical care nurses face a unique set of dangers (Lucchini et al., 2020; Demir & Şahin, 2022). They are known to suffer from physical, social, and psychological health challenges as they care for the critically ill patients and the surroundings in which they labor. CCNs work in a demanding care setting and endure strong psychological and physical impacts, according to Gordon Magbee and Yoder (2021) and Andlib et al. (2020). CCU nurses are required to control the risk of infection, often with insufficient safety precautions and to offer frequent care while wearing personal protective equipment (PPE). CCU nurses (PPE). Along with that, they've learned a great deal about pharmaceutical treatment regimens that are always evolving and they've seen people die alone as a result of the stringent isolation policies (Anastacio, 2020; Gonzales-Gil et al., 2021).

While caring for patients during the pandemic, CCNs are affected by physical, psychological as well as social challenges (Demir & Şahin, 2022). International Council of Nurses [ICN] (2021) revealed that the percentage of nurses experiencing mental health discomfort has increased from 60% to 80% in numerous nations since the initial wave of the epidemic. More than a third of workers in Spain reported working with a dread of infection and its implications, while 28% reported an increase in workloads. According to Hammond et al. (2021), 29% of CCNs in New Zealand experienced mental health challenges from patient care during the pandemic. For critical care nurses in the Netherlands, Heesakkers et

al. (2021) identified anxiety, sadness and post-traumatic stress disorder in 27.0% of the population. In a Pakistan research, 48.6% of nurses had burnout, 37.2% had significant emotional weariness, 36.8% had severe depersonalization and 46.9% had poor personal achievement (Andlib et al. 2022). However, there are almost no empirical investigations on the situation in Kenya.

According to Labrague, de Los Santos, and Fronda (2022), critical care nurses who have physical, psychological or social challenges have poorer nursing results. CCNs elevated stress can harm nursing practice and the nursing profession as a whole, leading to delays, omissions, or rationing in patient treatment. In another study, Endacott et al. (2021) reported undesirable outcomes such as the likelihood of patients developing pressure sores, infections and medication mistakes because of the difficulties faced by the critical care nurses. Prior to devising suitable solutions for the critical care nurse's job, an assessment of problems they confront is a crucial first step in ensuring a full range of intense nursing care is provided throughout the pandemic. Therefore, this study sought to establish the prevalence and categories of the psychosocial challenges encountered by critical care nurses caring for patients with COVID-19 at Kenyatta National Hospital critical care units.

1.2 Statement of the Problem

Even before the pandemic, Critical Care Nurses (CCNs) had greater rates of emotional distress and ill health than other nurses which negatively impacted health care quality and safety (Broetje, Jenny & Bauer, 2020; Labrague et al., 2020). Intensive Care Unit (ICU) capacity had to be raised during the pandemic, which necessitated more ICU staffing with the ability to care for severely sick patients and longer work periods. This added to the

difficulties that critical care nurses encounter on a daily basis. Nurses allocated in Covid-19 wards, according to Zerbini et al. (2020), are particularly vulnerable to the pandemic's psychological impacts. Tang, Tang & Gross, 2019 states that nurses are more likely than doctors to suffer from symptoms of anxiety and depression. Critical care nurses throughout the world are dealing with a slew of difficulties as the pandemic spreads (Shaukat et al., 2020; Chegini et al., 2021; Demir & Şahin, 2022).

According to Shah *et al.*, (2021), Health Care Workers (HCWs) at government hospitals should be given special consideration as they have higher prevalence of mental health symptoms than their private-sector counterparts. It is also imperative that these psychosocial challenges are continually assessed because psychosocial challenges have been found to have negative outcomes for both the nurses themselves and their patients. There is a direct correlation between psychological stress and physical and psychological health, as well as decreased work satisfaction, greater illness absence, and higher employee turnover. Overstressed critical care nurses are also more likely to make errors and lower the quality of care (Çelmeçe & Menekay, 2020; Endacott et al., 2021)).

Critical care nurses confront a variety of obstacles, according to a number of studies carried out during the pandemic. In Canada, a research by Crowe et al. (2021) sought to assess CCNs mental health. CCNs in Turkey were studied by Demir and ahin in 2022. Elsewhere, Fernández-Castillo et al. (2021) studied the experiences of CCNs Spain. CCNs Iran were examined in a research by Chegini et al. (2021). However, these studies were carried out in developed countries. Because COVID-19 affected countries variably and because healthcare disparities exist between developed and developing countries, there is a need for a local

study to provide empirical evidence for Kenya. Therefore, this study aimed to determine the prevalence and categories of these psychosocial challenges encountered by critical care nurses caring for patients with COVID-19 within KNH/Medical CCUs.

1.3 Justification of the Study

Since the emergence of the coronavirus disease 2019 (COVID-19) pandemic, health institutions worldwide have become overburdened due to increases in patient numbers leading to immense psychological pressure on nurses involved in the care of critically ill patients with COVID-19 (Shen et al., 2020). Workload, weariness, infection risk & mortality worry are all issues critical nurses must deal with on a daily basis. In addition, they have to cope with patients' and their families' concern and even misinterpretation of information given (Chegini et al., 2021). This exposes them to various psychosocial challenges.

However, not much was known about the prevalence and categories of the psychosocial challenges experienced by CCNs working in KNH. Therefore, the current study addressed this knowledge gap by presenting a significant focus on determining and categorizing these psychosocial challenges. The outcome of this study aids and informs nursing leaders, nursing managers, healthcare organizations, and policymakers on how best to provide diverse professional support to critical care nurses. This study also serves as a literature source and reference point for other researchers and academicians who may like to conduct further research on this topic.

1.4 Research Questions

The study answered the following questions.

i.) What psychological challenges are faced by critical care nurses caring for patients with covid -19 within KNH/Medical CCUs?

ii.) What are the physical challenges faced by critical care nurses caring for patients covid -19 patients within KNH/Medical CCUs?

iii.) What are the sociological challenges faced by critical care nurses caring for patients covid -19 patients within KNH/Medical CCUs?

1.5 Research Objectives

The study sought to achieve the following objectives:

1.5.1 General Objective

To establish the prevalence and categories of the psychosocial challenges encountered by critical care nurses caring for patients with COVID-19 at Kenyatta National Hospital critical care units.

1.5.2 Specific objectives

i.) To establish psychological challenges encountered by critical care nurses caring for patients with COVID-19 at Kenyatta National Hospital critical care units.

ii.) To identify the physical challenges encountered by critical care nurses caring for patients with COVID-19 at Kenyatta National Hospital critical care units.

iii.) To determine the sociological challenges encountered by critical care nurses caring for patients with COVID-19 at Kenyatta National Hospital critical care units.

1.6 Thoretical Framework

A theoretical framework is the structure that may contain or support a research study's hypothesis. It presents and discusses the theory that accounts for the existence of the research topic under consideration (Osanloo & Grant, 2016; Varpio et al., 2020). In this study, the Job Demand Control (JDC) or Demand Control Support (DCS) theory will be used. This model was developed by US sociologist Robert Karasek in the 1970s (Hu, Schaufeli & Taris, 2016; Vander Elst et al., 2016). There is a well-established theory explaining how work features affect the mental health of employees. According to the concept, psychological job expectations and job decision latitude are the two key drivers of stress in our work life (Zito, Cortese & Colombo, 2016; Tuomi, et al., 2016).

One of the most important ideas according to JDC is that by providing employees with the chance to gain new skills in a difficult work environment, employers may reduce the stress and strain of their workforce (Alves et al., 2015; Montgomery et al., 2015). Having great control over one's employment can assist buffer the stress brought on by having high work demands, according to the demand–control model's prediction that high work demands will lead to high levels of stress among employees (Shultz et al., 2010; Vander Elst et al. 2016).

JDCS is a valuable theoretical framework for analysing the nuances of nursing practice and the effects it has on patients. A career in nursing is both physically and emotionally taxing (Gordon et al, 2021; Crowe et al., 2021). Broetje et al. (2020) conducted a research to identify the three most important job demands and six most important job resources for nursing staff, such as work overload, a lack of formal incentives, interference with personal life and work-life balance and supervisor support. According to Negussie and Kaur (2016)

and Dilig-Ruiz et al. (2018), nurses' job satisfaction is linked to their job demands and the social support they get.

Patients require that CCNs have a high level of physical, mental, and emotional stamina (Lucchini et al., 2020; Andlib et al. 2022). In addition to providing basic care, a critical care nurse must perform highly technical assessments of patients, execute complicated care plans, and administer elaborate pharmaceutical protocols (Moradi et al., 2021; Demir & Sahin, 2022). Aside from their medical duties, CCNs are also responsible for their patients' emotional and psychological well-being. It's no surprise that CCNs have high rates of psychological issues (Gordon et al., 2021; Labrague et al., 2022).

The ICU is a highly stressful workplace because of its complicated structure, purpose, and social structure, as well as its unique culture, staff, protocols, and difficulties (Hoogendoorn et al., 2021; Andlib et al. 2022). CCNs in intensive care units (ICUs) faced a new and difficult work environment as a result of the COVID 19 epidemic, in addition to significantly increasing workloads. To prevent or control the transmission of the virus, COVID-19 patients must wear protective clothing, use particular cleaning procedures and keep supplies in segregated places. Nursing burden is increased by these measures (Luchini et al., 2020; Hammond et al., 2021). Psychiatric difficulties are expected to arise as a result of greater job expectations and a lack of control. This theory was therefore important in this study which sought to establish the prevalence and categories of the psychosocial challenges encountered by critical care nurses caring for patients with COVID-19 at KNH/Medical CCUs. This is because it recognises the important role of job demand such as those faced by critical care nurses in determining their psychosocial well-being.

1.7 Conceptual Framework

A conceptual framework is a description in writing or graphic form of the predicted connection between variables. A conceptual framework encapsulates the researcher's synthesis of the available literature about the best explanation for a phenomenon (Ivey, 2015; Bharti, Agrawal & Sharma, 2015). Figure 1.1 shows the conceptual framework of this study.

Independent Variables   **Dependent Variable**   **Outcome Variables**

Caring of COVID-19 patients
-PPE
-Isolation
-Workload

Psychosocial challenges
Psychological challenges:
Anxiety, Depression, PTSD, Burnout, Moral injury
Physical challenges:
Sleep disturbances, headaches, discomfort, exhaustion, breathlessness
Sociological challenges:
Stigma, isolation, conflicts, strained interactions with others, and isolation/loneliness

Nursing and patient outcomes
Nursing outcomes:
Psychosocial Health, job performance, job satisfaction, adverse events.

Patient Outcomes:
Morbidity and mortality

-**Training**
-**Motivation**
-**Policy**
-**Financial resources**

Intervening Variables

Figure 1.1 Conceptual Framework

This study seeks to establish the prevalence and categories of the psychosocial challenges encountered by critical care nurses caring for patients with COVID-19 within KNH/Medical CCUs. According to past studies, care given to COVID patients involves a lot of respeonsibility by critical care nurses (CCNs). CCNs had to deal with caring for patients in isolation, wearing PPE and heavy workload due to increased needs with limited staff. These challenges have an effect on CCNs well being and may manifest as psychosocial or physical challenges. Psychological challenges, physical challenges and social challenges are the dependent variables while caring for Covid-19 patients is the independent variable. Psychological challenges include stress, PTSD, depression, emotional exhaustion, and anxiety. Psychosocial Challenges include mental, emotional, social, and spiritual difficulties experienced by critical care nurses caring for COVID-19 patients. Physical challenges include such experiences as sleep disturbances, headaches, discomfort, exhaustion, and breathlessness.

2.0 CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter reviews the literature on psychosocial problems faced by CCNs caring for COVID-19 patients. Published papers discussing the psychosocial challenges, psychological Challenges, physical challenges and social challenges were included. The literature was obtained from PubMed, British Medical Journal, Public Library of Science, Science Direct, and Google Scholar to identify relevant studies between April 2020 and April 2022 on "critical care" "ICU nurses" "critical care nurses" "challenges" "covid-19". A total of 20 studies met the inclusion criteria. Four of the studies were systematic reviews, 4 were conducted in Iran, 2 from China and 2 from Turkey. The rest of the studies were carried out from USA, UK, Ireland, Netherlands, South Korea, India, Bangladesh and Philippines

2.2 Categories of Challenges Encountered by Critical Care Nurses Caring for Patients with COVID-19

This section presents literature on the categories of psychological challenges, physical challenges and social challenges faced by CCNs Caring for Patients with COVID-19.

2.2.1 Psychological Challenges Encountered by Critical Care Nurses Caring for Patients with COVID-19

Having a high degree of psychological well-being means having a positive outlook on life, a sense of purpose in one's work, and a sense of achievement in one's work. There is hedonic (enjoyment, pleasure) as well as eudemonic (meaning, fulfilment) contentment in this type of happiness (Tang, Tang & Gross, 2019). During the pandemic, stress, despair, emotional

weariness, and anxiety among critical care nurses were all found to be at an all-time high (Labrague et al., 2022). Anxiety/stress, dread, helplessness, concern, and empathy are among the feelings experienced, according to Gordon, Magbee, and Yoder (2021).

Critical care unit patients were the focus of a research by Demir and Sahin (2022) which examined the experiences of 110 Turkish intensive care unit nurses. In the course of caring for patients, nurses were subjected to unpleasant feelings such "stress, worry, anxiety," "disappointment," "nervousness," "despair," "tension," and "sadness." There was a great deal of distress and loneliness among the participants. COVID-19 was then a unique and unknown disease, with no current medications or vaccinations and a lack of preparedness for the pandemic according to the authors. As part of a descriptive qualitative research with thematic analysis, 23 Italian CCNs were analysed. The initial shock of the outbreak of the pandemic was followed by doubts and fears of infection as the most often voiced feelings. Seeing their co-workers in the hospital or dying of COVID-19 was also noted a source of agony by nurses (Catania et al., 2020).

In a similar study, Chegini et al. (2021) studied the perspectives of 15 CCNs during the pandemic. All of the participants had talked about dealing with some sort of psychological issue. Positive and negative psychological obstacles were cited by the majority of them. Feeling self-assured, proud of one's work, and content were among the high points of the internship. Fear, worry, anxiety, pre-occupation and desolation were among the negative experiences. Due to mental health issues, they found it difficult to carry out their everyday routines. Anxiety and depression may be exacerbated by COVID-19 because of the rapid

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changes in the health status of people who are infected with it such as multiple organ failure, as well as the fact that no authorized medications or treatments existed.

The mental health of 726 CCNs during the pandemic was the subject of a study in the Netherlands. Of the 726 people who took part in the survey, 27.0% expressed anxiety, 18.6% reported despair, and 22.2% showed symptoms of PTSD. There were greater psychiatric symptoms connected with working in an academic hospital. A possible explanation for our findings is the fact that the more critically sick patients are more frequently admitted or moved to academic hospitals and hence have a greater demand on ICU nurses and a higher fatality rate in these patients (Heesakkers et al., 2021)

Researchers in Wuhan, China, surveyed 90 nurses about their psychological health during the pandemic. They found that the degree of nurses' PTSD symptoms and stress was quantified as well as the contributing variables. PTSD and perceived stress were found in even the most resilient of nurses. According to this study, working in an isolated location was a major cause of stress as were worries about a lack of and insufficient use of personal protective equipment (PPE), physical and mental tiredness, a heavy workload, fear of infection, and a lack of prior experience with COVID-19 (Leng et al, 2020).

To better understand how Canadian critical care registered nurses dealt with their own emotional well-being while caring for their patients during the pandemic, a study by Crowe et al. (2021) was undertaken. The study indicated that 57% of participants had mild to moderate depression, 67% had anxiety, and 68% had stress (54 percent). According to the interviews, psychological distress was characterized by vague policies, inadequate communication, new and complicated patient needs and family commitments.

An investigation of 480 CCNs in Ireland during the pandemic was conducted. 17.4 percent (n=71) of the participants were physicians, 66.7 percent (n=273) of the participants were nurses, and 15.7 percent (n=64) of the participants had other occupations. The study found that 14% of the CCNs were at risk of PTSD. Distress in morality ranged from zero to 64, and the mean score was 7.8. (11.0). Working with team members who are not as skilled as patient care demands caused the most moral pain, according to the survey. Stress-related post-traumatic disorder (PTSD) was associated with increased moral distress and the adoption of maladaptive coping methods (Feeley et al., 2021).

There was a comparable investigation in New Zealand which evaluated the mental health of 3,770 CCNs when the pandemic began and variables related with psychological burden. More than a quarter (28.6 percent) of respondents experienced moderate to extremely severe depression, while more than a quarter (28.6 percent) expressed moderate to extremely severe anxiety (Hammond et al., 2021).

2.2.2 Physical Challenges Encountered by Critical Care Nurses Caring for Patients with COVID-19

Anxiety-related effects on the body include restless sleep, headaches, pain, and tiredness (Gordon, Magbee, Yoder, 2021). Because of the scarcity of nurses, nurses in isolation units are forced to perform 12- to 16-hour shifts in protective gear, which dehydrates and injures them, according to Gao et al. (2020). When nurses wear N95 masks for a lengthy period of time, they have markings on their face.

A sample 17 ICU nurses in Iran were interviewed by Moradi et al. (2021). It identified nurses as suffering from physical weariness. Nurses were unable to eat, drink, or go to the restroom during their shifts because of the uncomfortable weight of their PPE. Dehydration, urinary tract infection and constipation exacerbated the physical tiredness induced by this vicious cycle. Ahmadidarrehsima et al. (2022) in another Iranian study looked at 10 CCNs' perspectives on their work during the pandemic. Working in the COVID-19 ward was a problem for all of the individuals in this research. It was difficult to get out of bed owing to exhaustion from working long hours and wearing a protective mask as well as inability to use the bathroom due to the rigorous compliance with safety standards according to the participants.

Nurses physical and emotional health were the focus of a systematic review conducted by Shaukat et al. (2020). Using PubMed and Google Scholar, a comprehensive literature search was undertaken. There were 154 studies discovered by the authors, and only 10 of them matched the authors' standards. It was discovered that those CCNs who worked in high-risk departments, those who had infected family members and those who did not use PPE were all at risk for COVID-19-related health complications. Fever, cough, and weakness were the most prevalent symptoms, accounting for 85% of all cases (70 percent). The nasal bridge scarring was the most impacted location (83 percent) by prolonged PPE use, which resulted in cutaneous symptoms and skin damage (97 percent).

The physical and mental health of CCNs in USA in a research by Melnyk et al. (2021). In order to gather data, the researchers selected 2500 members of the American Association of Critical Care Nurses at random. Sixty-one percent of those polled said they had poor

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physical health, while fifty-one percent said they had poor mental health. There were more medical mistakes recorded by nurses who were physically and mentally unwell than by nurses who were in better condition.

There was a Turkish research by Demir and Sahin (2022) that looked at the experiences of 110 CCNs during the pandemic. Several times, CCNs described the physically taxing nature of wearing personal protection equipment for extended periods of time. While working with protective gear, participants claimed that they were unable to satisfy their basic physiological demands. According to Kang and Shin (2020) in a research based on South Korea, Korean nurses' experiences of overload, severe shortages of staff and equipment and job overload were documented. Long-term usage of personal protective equipment (PPE) caused skin issues and exhaustion among nurses.

To better understand the experiences and perspectives of 17 ICU nurses during the pandemic Fernández-Castillo et al. (2021) conducted a research in Spain. According to the findings, nurses' workloads skyrocketed as a result of the unique kind of care necessitated by the large number of patients treated in an isolated setting. It was a challenge for them to handle care in a unique manner and without prior expertise. Since fewer experts could be present, the nurse, for example, had to remain in the room longer and do more interventions than would have been possible if other professionals were there causing higher levels of fatigue.

2.2.3 Social Challenges Encountered by Critical Care Nurses Caring for Patients with COVID-19

Nurses in the field of critical care face discrimination and social exclusion because of the stigma associated with their profession during pandemics and other public health emergencies (Nashwan et al., 2021). Stigma, a skewed hero image, more duties, strained relationships with others, and isolation/loneliness were some of the social consequences (Gordon et al, 2021). The fear of infecting their own family members and others prevented nurses caring for infected patients from returning to their homes, despite the fact that they needed support and advocacy from their families (Kang & Shin, 2020)

Demir and Sahin (2022), examined the experiences of 110 Turkish CCNs during the pandemic. In the nurses' opinion, society saw health workers as disease carriers, and as a result, they felt marginalized and socially isolated. In another Turkish study, Sezgin et al. (2021) aimed to convey their perspectives of 10 CCNs on the disease and their working environment during the pandemic. Fear of transmitting the sickness to family and friends was raised by nurses, according to reports. Some nurses stayed in the hospital-provided lodging to prevent spreading the disease to their families. It was difficult for them not being able to see their loved ones. Critical care nurses had to work longer shifts and worried about infecting their loved ones while the rest of society stayed at home to protect themselves. Nurses reported feeling alienated and lonely as a result of working at Covid-19.

In Iran, Chegini et al. (2021) sought to establish experiences of 15 CCNs about their work during the pandemic. The social domain faced a wide variety of challenges, both favourable and bad. As a result, participants described a range of good and bad experiences, including

an increase in social solidarity and generosity, an increase in attention, appreciation and adherence to cleanliness ideals as well as an increase in social panic, developing rumours and fake news.

As part of their study, Jain et al. (2021) surveyed and assessed the social stigma encountered by 120 CCNs in a specialised hospital in India. There was a mean score of 41; 7.69 for COVID-19-related stigma. Subgroups of the stigma scale had mean values of 15.60; 4.01, 6.68; 3.21, 5.46; 3.22, and 13.25; 2.44, respectively, for personalized stigma, disclosure worries, unfavourable self-image, and concerns with public attitude. Univariate analysis revealed that lower COVID-19 stigma ratings were linked with older age groups, male gender, lower occupational status (technicians and nursing orderlies), lower educational attainment, and the presence of married health care workers (HCWs). Only the male gender was shown to be substantially linked with the intensity of the COVID-19 stigma in a logistic regression model.

2.3 Prevalence of Challenges Encountered by Critical Care Nurses Caring for Patients with COVID-19

Pandemics such as COVID-19 necessitates the role of nurses in the provision of direct patient care and minimizing the danger of infection (Fernandez et al., 2020). COVID-19 placed healthcare systems under unprecedented strain particularly on nurses (Danesh, Garosi & Golmohamadpour, 2021). During the pandemic, Melander (2021) performed a qualitative metasynthesis to characterize the experiences of critical care nurses. The pandemic had a profound effect on intensive care nurses' mental, physical, and emotional well-being. A lack of organizational support, difficulties adjusting to continuous change, a dearth of training

and experience, a harrowing workload, anxiety about spreading the disease to their families, and a lack of PPE were some of the problems they encountered.

When the COVID-19 pandemic was still in its early phases, Danesh et al. (2021) undertook a systematic assessment of the early literature to examine emergent nursing problems. CCNs were subjected to a gruelling condition in which they were subjected to substantial psychological and physical discomfort. Overarching themes included "physical and mental fatigue" due to dread and uncertainty of becoming infected. Using a phenomenological approach, Anastacio (2020) interviewed 46 nurses from institutions in the Philippines that treated patients during the pandemic. Nurses in COVID-19 wards faced a variety of problems, including physical, procedural, psychological, and physical protection. Additionally, nurses found it difficult to deal with the following issues: a shortage of PPE, a lack of time to offer timely treatment, an increased workload, constraints on the amount of nursing care they could provide, and an increased danger to their own safety.

In the United Kingdom, a research by Montgomery et al. (2021) tried to investigate the experiences of NHS workers in critical care. Thirty members of the NHS critical care team participated in the study which included 21 CCNs. The study's findings revealed that a community of fate formed as a result of the stress, tension, and social emergency that COVID-19 placed its employees under. Teamwork, companionship, pride and fulfilment helped alleviate the isolation and stress of critical care labour in COVID-19 departments.

Three hundred Iranian nurses caring for COVID-19 patients in 2020 participated in a research by Vejdani et al. (2021). Three primary categories and 17 subcategories in which all of the tasks can be placed were identified. Management errors, mental and physical

obstacles and challenges in harsh work circumstances, and a lack of enough labour were the key categories. A sample of 17 ICU nurses in Iran were interviewed by Moradi et al. (2021) to learn about the difficulties they faced while caring for Patients during the pandemic. The inefficiency of the hospital in handling the patients, Critical Care Nurses fatigue, cloud of uncertainty as well as the psychological toll from the disease were among the difficulties that nurses encountered while providing treatment for COVID-19 patients.

Ahmadidarrehsima et al. (2022) in another Iranian study looked at 10 nurses' perspectives on their managing patients during the pandemic. CCNs in this study experienced a wide range of personal and professional obstacles. This included the financial, emotional, and social toll of providing care. A study conducted by Razu et al. (2021) attempted to examine the difficulties experienced by a group of 5 doctors and 10 nurses participating during the pandemic in Bangladesh. The analysis uncovered seven themes. In addition to increased effort and psychological stress, members reported experiencing social marginalization and stigma, as well as a lack of rewards, a lack of coordination, and poor management. The pandemic needs adequate assistance for healthcare workers in order to achieve a better overall health result.

2.4 Summary of Literature Review

Literature reviewed showed that critical care nurses face a wide variety of psychological challenges, physical challenges and social challenges. Psychological challenges include stress, PTSD, depression, emotional exhaustion, and anxiety. Psychosocial Challenges included mental, emotional, social, and spiritual difficulties experienced by critical care

nurses caring for COVID-19 patients. Physical challenges included such experiences as sleep disturbances, headaches, discomfort, exhaustion, and breathlessness.

However, much of this evidence was obtained from studies conducted in other countries which were mainly developed nations. The studies in the literature review were from USA, UK, Ireland, Netherlands, South Korea, India, Bangladesh Iran, China, Turkey and Philippines. To provide evidence for Kenya, this study sought to establish the prevalence and categories of psychosocial and physical challenges encountered by critical care nurses caring for patients with COVID-19 at Kenyatta National Hospital/ Medical CCUs.

3.0 CHAPTER THREE: METHODOLOGY

3.1 Introduction

The study framework and methods are described in depth in this chapter. The study's design, location, participants, eligibility requirements, sample size calculation, and sampling procedure are all described in detail. There is also a focus on the tools and techniques used to gather data, as well as the validity and dependability of the research instrument..

3.2 Study Design

Descriptive cross-sectional research was the design to be used for this research project. A descriptive cross-sectional research examines an illness or condition, as well as any possible contributing variables in a specified population at a single moment in time (Mohajan, 2018). This design was adopted to determine and categorize the psychosocial challenges experienced by CCNs caring for patients with COVID-19 at Kenyatta National Hospital/ Medical CCUs. This research design gave information about the variables being studied at the time of the investigation and emergent patterns. This design was also preferred because it is simple to use and cost effective.

3.3 Study Setting

The study was conducted at Kenyatta National Hospital (KNH). As a teaching and referral public health facility, KNH is the biggest. It is primarily a referral hospital for the county of Nairobi and the surrounding region. Additionally, it functions as a teaching hospital for the University of Nairobi's College of Health Sciences and other institutions of higher learning in Kenya. It is situated on the upper hill area of Nairobi city, less than a mile away from the

core business centre. It has a total of 50 wards, 22 out-patient facilities, 24 operating theatres, and an A&E department at KNH. 1800 beds are available and more than 6,000 employees work there. The research will take place in the Medical Critical Care units of 7A and 8A. The medical CCU has eight beds, whereas the general CCU has 21. As a result of the outbreak, the medical CCUs had to admit patients with the Covid-19 virus. Patients in these two intensive care units are cared for by primarily CCNs and other Health Care Workers. This study site was preferred because of KNH's is the biggest in the country and therefore the results of this study can be generalised to the rest of the country.

3.4 Study Population

The study population will be CCNs who were directly involved in the caring of COVID-19 patients within KNH/CCU. KNH/Medical CCU has 39 CCNs (KNH, 2022).

3.5 Eligibility Criteria

3.5.1 Inclusion Criteria

- Critical care nurses willing to participate in the study.
- Critical care nurses who had cared for COVID-19 patients within KNH/CCU in Medical CCUs 7A and 8A.

3.5.2 Exclusion Criteria

Critical care Nurses who decline to consent to participating in the study.

3.6 Sample Size Determination

The researcher included all 39 critical care nurses who had been directly involved in the management of covid-19 patients within KNH/CCU. This decision was informed by the fact that the total population is small and manageable to by the researcher. Therefore, there was no need to sample.

3.7 Sampling Technique/Sample Size Distribution

Nurses were recruited for the research using a census approach. Each and every person in a population is counted in a census. The term "full enumeration" refers to the act of conducting an exhaustive tally (Berndt, 2020). This approach aided in obtaining an adequate number of nurses knowledgeable about the issues under investigation: psychosocial challenges faced by KNH CCNs involved in the care of COVID-19 patients. The advantage of census approach is that is that it ensured higher degree of accuracy than other techniques. Data collected using this method is also deemed reliable because there is no risk of sampling error or bias (Elfil & Negida, 2017).

3.8 Recruitment and Consenting Procedures

Following ethical approval from KNH/UON ERC and on obtaining permission from KNH management to conduct the study the researcher informed the nurses to of the study. This was done through placing of a notice on the Medical CCU notice board informing the participants of the study and encouraging them to participate. The researcher then embarked on the process of obtaining consent from the respondents in the month of September. The researcher explained to prospective participants what the research project entails and what

their involvement entailed. Details given to the respondent involved the purpose of the study, voluntary participation, procedures of the study, risks and benefits. Once the researcher completed giving the respondent the information they took questions in order to clarify any issue that the respondent had. Once all questions had been answered or where the respondent had no question, the researcher asked the respondent whether they wished to take part in the study. Both written and/or verbal consent was accepted.

3.9 Data Collection Tools

A questionnaire Appendix II was used to collect information from nurses who participated in the study. The questionnaire was researcher generated and was self-administered. The questionnaire was in the English language that is understood and spoken by the Critical Care Nurses in Medical CCU 7A/8A. The questionnaire was then converted to an electronic form by the researcher using Microsoft Forms 365 app. This is a web-based software that enables users to create surveys online and manage data collected (Rhodes, 2019). A link to the questionnaire was sent to the consenting respondents through text and WhatsApp. The questionnaire contained sections to collect data on various variables such as socio-demographic characteristics, psychological challenges, physical challenges and social challenges. This study's questionnaire was selected because of its practicality, appropriateness to the research issue and sample size. Completion of one questionnaire was expected to take 15 minutes. A sample of the questionnaire is attached in Appendix II.

3.10 Pre-test

A pre-test is a small study that is carried out to evaluate the feasibility of the study instruments (Mikuska, 2017). Pretesting of the questionnaire was carried out among critical care nurses working in KNH Main CCU as the critical care nurses have occasionally cared for COVID-19 patients. Four CCNs in the department were used in the pre-test. This is equal to ten percent of the main sample as recommended by Hu (2014). The data collecting instrument was reworked and a final validated version of the research instrument was created after the pre-testing stage.

3.11 Validity and Reliability

The consistency of measurements is what determines an instrument's reliability: from one moment to the next, from one form to the next, from one item to the next. The validity of an instrument, on the other hand, is commonly described as the amount to which it measures "what it is supposed to measure" or "what it claims to measure" (Heermann & Megel, 1994). In order to guarantee that the study goals are effectively represented by the research instrument, the supervising lecturers and peers assisted in establishing its content and construct validity. The data abstraction tool is also informed by past literature representing an improved understanding on the study problem and structure of the data collection instruments. To establish reliability, data collected in the pre-test was analysed. Cronbach's alpha coefficient (≥ 0.7) was used to indicate reliability.

3.12 Data Collection Procedure

The questionnaire was distributed electronically using Microsoft Forms 365 app. A link to the questionnaire was sent to the consenting respondents through text, WhatsApp or email. This method was preferred because it is fast and cheaper than using hard copy questionnaires. The sent link allowed for anonymous feedback from the respondents. To measure physical challenges, 7 physical challenges were indicated where respondents responded on how often they have experienced them using a 4-point Likert scale. Psychological and social challenges were also be measured using 20 questions. Questions assessing social challenges had a 5-point Likert score. On completion of the questionnaire and submission, the questionnaires were retained in the Microsoft Forms 365 app that is password accessed awaiting feedback from all consenting respondents before data analysis could proceed. The respondents was given 4 weeks to fill the questionnaire. The data collection took one month in September, 2022.

3.13 Data Management and Analysis

At the conclusion of each day, the researcher coded and check the completed surveys for accuracy and consistency. Data was generated into a Microsoft Excel Spreadsheet and exported to SPSS Version 28. Data was analysed using descriptive and chi-square methods. Frequency, percentages, mean, and standard deviation were carried out in descriptive analysis. These were important in establishing demographic characteristics of respondents, psychological challenges, physical challenges and social challenges.

Psychological challenges were measured by asking respondents if they had been diagnosed with mental disorders. A diagnosis of any mental disorder indicated psychological challenges. To measure physical challenges, 7 physical challenges were indicated where respondents indicated how often they had experienced them using a 4-point Likert scale. A score of 1 indicated often while a score of 4 indicated never. A score of 15 and below was taken to mean physical challenges. Social challenges were measured using 12 questions. Each question had a 5-point Likert score where a value of 1 will indicated disagreement and a value of 5 indicated agreement. A score of 36 and above indicated social challenges.

To establish relationships between variables such as demographic characteristics and psychosocial challenges chi-square tests were carried out. Chi-square tests were conducted at 95% confidence interval whereby significant relationships were established using p-value of or below 0.05 as the critical value. The results were presented in form of tables.

Regression analysis was used to test the effect of the intervening variables. The causal steps approach popularized by Baron and Kenny (1986) were employed. This approach requires the researcher to estimate each of the paths in the model and then ascertain whether a variable function as a mediator by seeing if certain statistical criteria are met. Complete mediation is present when the independent variable no longer influences the dependent variable after the mediator has been controlled and all of the above conditions are met. Partial mediation occurs when the independent variable's influence on the dependent variable is reduced after the mediator is controlled. This procedure aids in statistically representing the actual strength and direction of variables in order to improve reporting predictor results on outcomes.

3.14 Quality Assurance

Quality assurance comprises all the techniques, systems and resources that are used to ensure that the care and control with which research has been conducted is up to the desired standards Gillis (2019). This study was conducted following ethical approval from KNH/UON ERC and on obtaining permission from KNH management to conduct the study. The questionnaire utilized Appendix II was reviewed by the supervising lecturers and peers who assisted in establishing its content and validity.

3.15 Ethical Considerations

To perform and communicate scientific research ethically, researchers must follow a set of ethical norms (Dooly, Moore & Vallejo, 2017). In addition, it instructs and supervises researchers to guarantee a high ethical standard is maintained. Research ethics, according to George (2016), is based on three basic principles: respect for people, beneficence, and fairness. Participant choice, permission, anonymity, secrecy, risk of injury, and disclosure of findings are a few more (Barrow, Brannan & Khandhar, 2021). This study ensured that the principles of autonomy, beneficence, justice and non-maleficence were met. Before undertaking the study, a written approval was sought from KNH-UoN ERC. Permission to recruit nurses to participate in the study was also obtained from KNH administration. The participants of the study were educated on their rights and benefits of taking part in the study after which, an informed consent was sought.

Autonomy

In order to adhere to the principle of autonomy, a patient must be able to make their own choices about their own thoughts, intentions, and actions. In this study, only willing respondents were recruited in the study. The respondents in the study were anonymous and this were ensured by not having the respondents indicate their names or contacts.

Beneficence

The technique must be administered with the intention of doing good for the patient concerned if it is to be considered beneficent. The findings of this study are meant to benefit all critical care nurses by recommending ways to reduce psychosocial challenges.

Justice

As a matter of justice, it is essential that all parties engaged in a case be treated equally and, in a manner, consistent with the letter of the law. The researcher complied with all the university and ethics committee guidelines. In addition, all respondents were treated equally.

Non-maleficence

In order to be non-maleficent, a procedure must not cause harm to the patient or anybody else. There were no risks associated with study. However, the respondents were advised that should they become emotional, they would be referred for appropriate counselling services within Kenyatta National Hospital.

3.16 Limitations

Although COVID-19 affected nurses in all facilities in Kenya, this study was limited to critical care nurses. In addition, this study was limited to only those CCNs working in Kenyatta National Hospital. To mitigate this limitation, a large sample size was used to ensure generalisation of the study findings. The study is limited to self-report information which carries the risk of social-desirability and response bias. To mitigate this, the study was carried out on a voluntary basis whereby an informed consent was a prerequisite to participation so that only willing nurses take part. In addition, the questionnaire was distributed electronically and respondents' names were not required to ensure anonymity so as to instil confidence among participants to provide truthful information.

CHAPTER FOUR: RESULTS

4.1 Introduction

The results of this study which sought to establish the prevalence and categories of the psychosocial challenges encountered by critical care nurses caring for patients with COVID-19 at Kenyatta National Hospital critical care units are presented in this chapter. Results in this chapter comprise respondents' socio-demographic information, psychological challenges encountered by critical care nurses, physical challenges encountered by critical care nurses and sociological challenges encountered by critical care nurses. A total of 39 CCNs who were directly involved in caring of COVID-19 patients within KNH/Medical CCU took part in the study representing a maximum (100%) response rate.

4.2 Respondents' Socio-Demographic Information

The study collected data on the respondents' demographic characteristics. This included gender, age, marital status, level of training in critical care nursing and working experience as illustrated in table 4.1.

Table 4.1 Respondents' Socio-Demographic Information-Do subtotal for each variable as given in the example below

Demographic characteristic	Categories	Frequency	Percent
Gender	Female	33	84.6
	Male	6	15.4
	Total	39	100.0
Age (years)	21-30	5	12.8
	31-40	26	66.7
	41-50	7	17.9
	51-60	1	2.6
	Total	39	100.0

Marital status	Single	12	30.8
	Married	27	69.2
	Total	39	100.0
Training in critical care nursing	Yes	27	69.2
	No	12	30.8
	Total	39	100.0
Level of training	Higher diploma	24	88.9
	Bachelor's degree	2	7.4
	Masters	1	3.7
	Total	27	100.0
Working experience (years)	1-5	10	25.6
	6-10	15	38.5
	11-15	10	25.6
	>15	4	10.3
	Total	39	100.0

Majority 33(84.6%) of the respondents in the study were female. Results show that show that 26(66.7%) of the respondents were in the 31 to 40 years. As shown in Table 4.1, 27(69.2%) of the respondents were married. Majority 27(69.2%) of the respondents had acquired training in critical care nursing. Among those who had acquired training in critical care nursing, majority 24(88.9%) had acquired training at a higher diploma level. Results also show that 15(38.5%) of the respondents had accrued a working experience of between 6 and 10 years. The results show that 25 (64.1%) of the respondents had a working experience of between 1 and 5 years while an equal number had a working experience of between 11 and 15 years.

4.2 Prevalence and categories of Psychological Challenges Encountered by Critical Care Nurses caring for patients with COVID 19

The study sought to establish psychological challenges encountered by critical care nurses caring for patients with COVID-19 at Kenyatta National Hospital critical care units. Psychological challenges referred to CCNs negative mental or emotional experiences while

caring for COVID-19 patients. This included stress, PTSD, depression, emotional exhaustion, and anxiety. The results are presented in this section. The respondents in the study were asked to indicate if they had been diagnosed with any mental disorder since the COVID-19 pandemic started. Results are illustrated in table 4.2.

Table 4.2 Prevalence and categories of Psychological Challenges Encountered by Critical Care Nurses

	Response	Frequency	Percent
Mental disorder diagnoses since the COVID-19 pandemic started	None	8	20.5
	Anxiety	10	25.6
	Burnout	15	38.5
	Anxiety and Burnout	6	15.4
Mental disorder diagnoses before COVID-19 pandemic started	Yes	4	10.3
	No	35	89.7
Mental disorder diagnosed	Anxiety	2	50.0
	Burnout	1	33.3
	Other mental health problem	1	33.3
Sought help due to mental health issue	Yes	17	43.6
	No	22	56.4
Source of help for mental health issue	Doctor or psychologist	7	38.9
	Employee support program at my place of work	8	44.4
	Professional support program outside of work	3	16.7

Results demonstrate that 15 (38.5%) and 10 (25.6%) of the respondents had been diagnosed with burnout and anxiety respectively since the Covid-19 pandemic started. However, the results show that the majority 35(89.7%) had not been diagnosed with a mental disorder before the pandemic stared. Among those who had been diagnosed, 2(50%) had anxiety. Respondents were also asked if they had sought help for the mental disorder. slightly above half 22(56.4%) of the respondents indicated that they had not. Among those who had sought

help, 8(44.4%) had sought help from the employee support program while 7(38.9%) used a doctor or psychologist. The researcher sought to find out if there was a relationship between demographic characteristics of respondents and the presence of psychosocial challenges.

Table 4.3 Association of Demographic Characteristics and Psychological Challenges

Demographic	Categories	Presence of psychological challenges	Absence of psychological challenges	Chi-square value ($\chi2$)	Degrees of freedom (df)	P-value
Gender	Female	26	7	0.064	1	0.8
	Male	5	1			
Age (years)	21-30	5	0	3.718	3	0.294
	31-40	21	5			
	41-50	4	3			
	51-60	1	0			
Marital status	Single	9	3	0.214	1	0.644
	Married	22	5			
Training in critical care nursing	Yes	22	5	0.214	1	0.644
	No	9	3			
Working experience (years)	0-5	9	1	2.61	3	0.456
	6-10	11	4			
	11-15	7	3			
	>15	4	0			

As shown in Table 4.3, none of the demographic characteristics were significant.

4.3 Physical Challenges Encountered by Critical Care Nurses caring for patients with COVID 19

The study sought to identify the physical challenges encountered by critical care nurses caring for patients with COVID-19 at Kenyatta National Hospital critical care units. Physical challenges referred to the undesirable bodily consequences experienced by CCNs

caring for COVID-19 patients. This included such experiences as sleep disturbances, headaches, discomfort, exhaustion, and breathlessness. To achieve this, respondents in the study were asked to indicate if they had experienced several physical challenges namely exhaustion, back pain, sweating, breathlessness, sleep disturbances, lack of appetite, and numbness. The results are presented in Table 4.4.

Table 4.4 Physical Challenges Encountered by Critical Care Nurses caring for patients with COVID 19

	Often	Occasionally	Rarely	Never
Exhaustion	35.9%	41%	17.9%	5.1%
Back pain	51.3%	33.3%	7.7%	7.7%
Sweating	15.4%	15.4%	30.8%	38.5%
Breathlessness	7.7%	7.7%	41%	43.6%
Sleep disturbances	23.1%	28.2%	35.9%	12.8%
Lack of appetite	5.1%	20.5%	35.9%	38.5%
Numbness	5.1%	15.4%	15.4%	64.1%%

The results show that 16 (41%) experienced exhaustion occasionally. Slightly above half 20 (51.3%) of the respondents experienced back pain. Results show that 15 (38.5%) never experienced sweating while 12 (30.8%) experienced it rarely. Similarly, 17 (43.6%) never experienced breathlessness. Results show that 14 (35.9%) rarely experienced a lack of appetite. The majority 25 (64.1%) also never experienced numbness. To determine the prevalence of physical challenges in the sample, items in Table 4.4 were summed up to get a single score for the seven items. Analysis of the scores showed a mean of 18.6 + 4.215. The minimum score was 10 while 26 was the maximum. A score of 15 and below was taken to mean the presence of physical challenges.
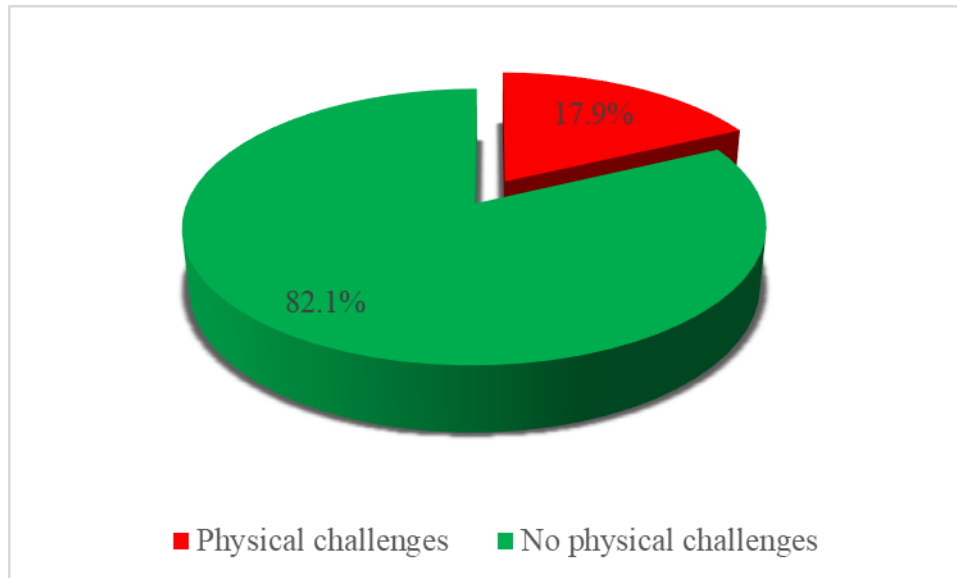
Figure 4.1 Prevalence of Physical Challenges

The results show that 7(17.9%) had physical challenges. The researcher sought to find out if there was a relationship between the demographic characteristics of respondents and the presence of physical challenges. The results are presented in Table 4.5

Table 4.5 Association of Demographic Characteristics and Physical Challenges

Demographic	Categories	Presence of physical challenges	Absence of physical challenges	χ2	df	P
Gender	Female	5	28	1.140	1	.286
	Male	2	4			
Age (years)	21-30	0	5	9.340	3	0.025
	31-40	3	23			
	41-50	4	3			
	51-60	0	1			
Marital status	Single	2	10	0.019	1	.889
	Married	5	22			
Training in critical care nursing	Yes	7	20	2.568	4	.632
	No	0	12			
Working experience (years)	0-5	1	9	3.465	3	0.325
	6-10	2	13			

38

11-15	2	8
>15	2	2

Results in Table 4.5 show that there was a significant association ($\chi2$ =9.340, df=3, p= 0.025) between respondents' age and the presence of physical challenges. Results show that 4(57.1%) of those with physical challenges were aged between 41 and 50 years.

4.4 Sociological Challenges Encountered By Critical Care Nurses caring for patients with COVID 19

The study also sought to determine the sociological challenges encountered by critical care nurses caring for patients with COVID-19 at Kenyatta National Hospital critical care units. Social challenges referred to the adverse human interactions experienced by critical care nurses working with covid-19 patients within KNH/Medical CCUs. This included stigma, social isolation, conflicts with colleagues, strained interactions with others and isolation/loneliness. Respondents in the study were asked to indicate whether COVID-19 pandemic had an impact on their relationships with family, friends, and work partner colleagues.
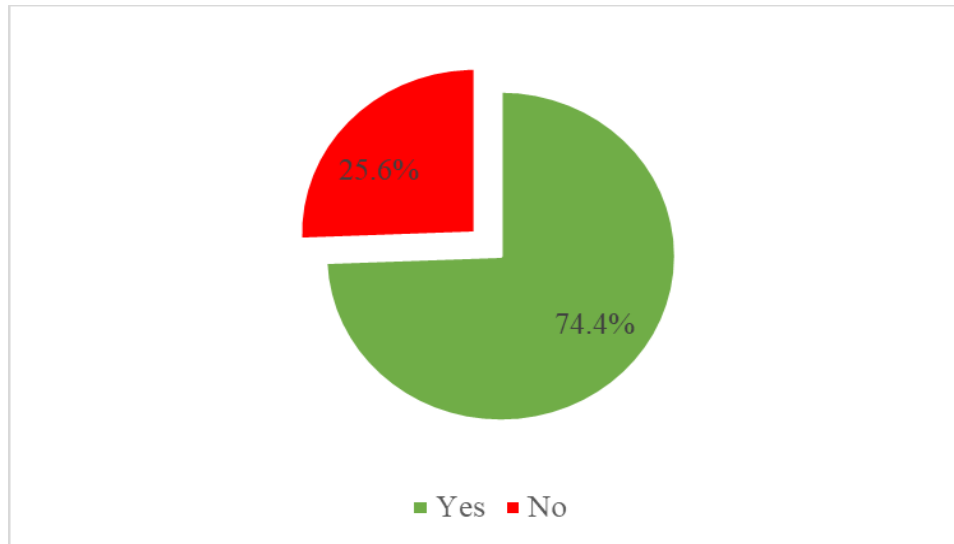
Figure 4.2 Effect of COVID-19 on Relationships

The majority 29 (74.4%) of the respondents indicated that the COVID-19 pandemic had had

an impact on their relationships with family, friends, work colleagues and partners as shown

in Figure 4.2. Among those respondents who replied on the affirmative, the researcher

sought to find out how COVID-19 pandemic had had an impact on their relationships with

family, friends, and work partner colleagues.

Table 4.6 How COVID-19 affected Relationships

	Frequency	Percent
I have a closer or stronger relationship with my partner	8	27.6
I have a closer or stronger relationship with my children/parents/family	16	55.2
I have a closer or stronger relationship with my friends	5	17.2
I have a closer or stronger relationship with my work colleagues	12	41.4
I have a worse relationship with my partner	1	3.4
I have a worse relationship with my children/parents/family	2	6.9
I have a worse relationship with my friends	6	20.7
I have a worse relationship with my work colleagues	0	0.0
No effect on relationship	0	0.0

As shown in Table 4.6 above, 16(55.2%) indicated that they had a closer or stronger

relationship with their children/parents/family. Similarly, 12(41.4%) of the respondents

40

indicated that they had a closer or stronger relationship with their work colleagues. Respondents in the study were also asked to indicate how the COVID-19 pandemic had had an impact on their relationships with the community and other people as shown in in Table 4.7.

Table 4.7 COVID-19 and Social Relationships

	Disagree	Uncertain	Agree
I feel that some of the family members and friends have not been very empathetic and supportive	41%	15.4%	43.6%
My spouse/partner and/or immediate family has not been very supportive during the covid-19 pandemic	61.5%	28.2%	10.3%
I have experienced social stigmatization from some of the community members	35.9%	12.8%	51.2%
The community is worried that health workers will spread the virus to others	10.3%	2.6%	87.2%
The community is generally appreciative of health workers during this time	20.5%	7.7%	71.7%
My social life has been greatly restricted being a frontline health care worker	18%	12.8%	69.2%
Having worked with Covid-19 patients, I have experienced social stigmatization from my colleagues	25.6%	10.3%	64.1%
If I contract COVID-19, colleagues will question whether I took sufficient precautions	30.7%	12.8%	56.4%
I have worked with limited resources (PPE, medications, ventilators, staff, etc.)	5.2%	5.1%	89.7%
The education I have received so far about COVID-19 at my workplace have been useful and timely	25.7%	15.4%	59%
My income has been altered due to COVID-19 pandemic	51.2%	23.1%	25.6%
My wellbeing and mental health during the COVID-19 pandemic have been supported very well by my employer	41%	15.4%	43.6%

Results show that 35 (89.7%) indicated that they worked with limited resources. The majority 34 (87.2%) agreed that the community is worried that health workers will spread the virus to others. Results show that 37 (69.2%) and 25 (64.1%) indicated that social life had been greatly restricted being a frontline health care worker and they had been stigmatized by their colleagues. This was an indication of disruption of social challenges due

to caring of COVID-19 patients. To measure the prevalence of social challenges in the sample, items in Table 4.7 were summed up. The scores ranged from 30 to 52 with a mean of 39.9 ± 41. A score of 36 and above indicated social challenges.
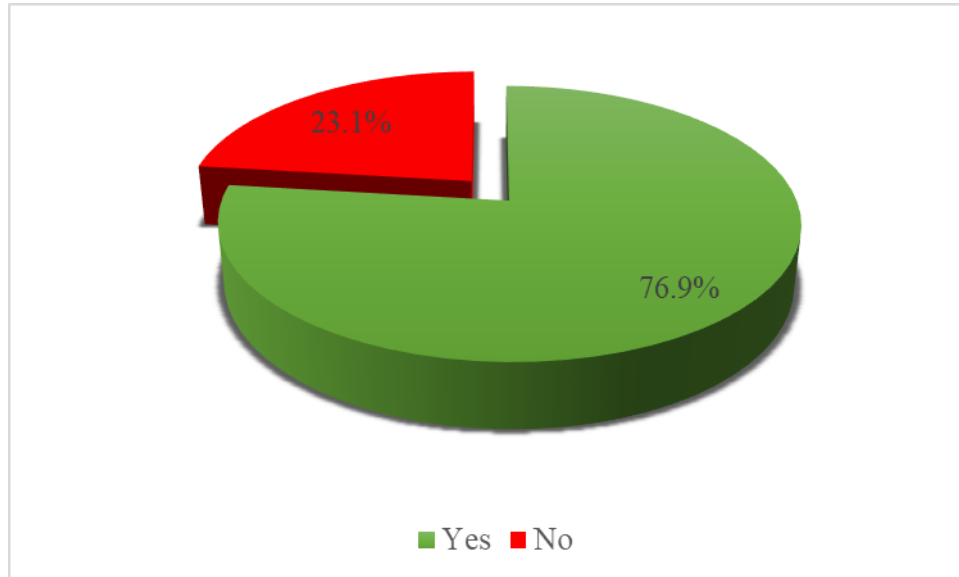
Figure 4.3 Prevalence of Social Challenges

As shown in Figure 4.3, 30 (76.9%) of the respondents scored above 36 indicating that they had social challenges occasioned by the COVID-19 pandemic. The researcher also sought to find out if there was a relationship between the demographic characteristics of respondents and the presence of social challenges.

Table 4.8 Association of Demographic Characteristics with Social Challenges

Demographic	Categories	Presence of social challenges	Absence of social challenges	χ2	df	P
Gender	Male	26	7	0.420	1	.517
	Female	4	2			
Age (years)	21-30	3	2	1.442	3	.696
	31-40	21	5			
	41-50	5	2			
	51-60	1	0			
Marital status	Single	10	2	0.401	1	.526
	Married	20	7			
Training in critical care nursing	Yes	23	4	3.374	1	.066
	No	7	5			
Working experience (years)	0-5	7	3	1.351	3	.717
	6-10	11	4			
	11-15	9	1			
	>15	3	1			

As shown in Table 4.8, none of the demographic characteristics were significant

CHAPTER FIVE: DISCUSSION

5.1 Introduction

The study sought to establish the prevalence and categories of the psychosocial challenges encountered by critical care nurses caring for patients with COVID-19 at Kenyatta National Hospital critical care units. In this chapter the discussion results of the study are presented.

5.2 Demographic Characteristics Associated with Prevalence and Categories of the Psychosocial Challenges

The study collected data on the respondents' demographic characteristics which included gender, age, marital status, level of training in critical care nursing and working experience. Majority of the respondents in the study were female, aged between 31 to 40 years, married, trained in critical care nursing with less than 10 years of working experience. Age was significantly associated with physical challenges. However, no demographic characteristics were associated with either psychological challenges or social challenges. The association between age and physical challenges maybe due to aging whereby older nurses may experience burnout because of body chemistry changes and the difficulty managing these imbalances. This is similar to Shultz et al. (2010) who found that due to age changes associated with cognitive processing, the psychological demands of work may relate differently with controls for younger versus older workers. This result however differs with Andlib et al. (2022) finding that burnout was significantly higher among nurses who: were working in public hospitals, had no training on COVID-19 prevention, worked for less than 48 hours per week and provided care to an increased number of COVID-19 patients per

shift. The implication of this result is that older nurses should be encouraged to participate in interventions to reduce burnout among critical care nurses.

5.3 Prevalence and categories of Psychological Challenges Encountered by Critical Care Nurses caring for patients with COVID 19

The study sought to establish prevalence and categories of psychological challenges encountered by critical care nurses caring for patients with COVID-19 at Kenyatta National Hospital critical care units. Psychological challenges referred to CCNs negative mental or emotional experiences while caring for COVID-19 patients. This included stress, PTSD, depression, emotional exhaustion, and anxiety. The study found that the majority of the respondents had psychological challenges. The Major categories were burnout and anxiety while the minor categories included PTS and, depression. Results showed that just below fourty percent and a quarter of the respondents had been diagnosed with burnout and anxiety respectively. These results, therefore, demonstrate that psychological challenges were prevalent among critical care nurses caring for patients with COVID-19. This could be attributed to the sudden workload, uncertainty and confusion that was brought about by caring of COVID-19 patients in the absence of clear guidelines for management and treatment. This result corroborates with the findings of Catania et al. (2020) where COVID-19 created anxieties among Italian front-line nurses due to the inability to care for patients properly due to the heavy restrictions created by infection control procedures—and uncertainty about infection control. It agrees with Leng et al. (2020) even relatively highly resilient nurses in China experienced some degree of mental distress. Demir and Şahin (2022) also found anxiety among a sample of nurses in Turkey. Similarly, Chegini et al.

(2021) found that negative experiences included anxiety. The results of this study are therefore in agreement with past studies that found a high prevalence of burnout and anxiety. However, depression and PTSD were not prevalent. The implication of this finding is that interventions to reduce burnout require to be instituted to correct this situation.

5.4 Prevalence and categories of Physical Challenges Encountered by Critical Care Nurses caring for patients with COVID 19

The study sought to identify the prevalence and categories of physical challenges encountered by critical care nurses caring for patients with COVID-19 at Kenyatta National Hospital critical care units. Physical challenges referred to the undesirable bodily consequences experienced by CCNs caring for COVID-19 patients. This included such experiences as sleep disturbances, headaches, discomfort, exhaustion, and breathlessness. The study found that only a few of the respondents had physical challenges. The categories of physical challenges included back pain, exhaustion, and sleep disturbances. Chi-square tests showed that older nurses (over 40 years) experienced more physical challenges. Physical challenges in this study could be attributed to long working hours, dealing with more patients than normal and the requirement for round-the-clock PPE use. This is similar to the findings of Ahmadidarrehsima et al. (2022) where all the participants in the study pointed to the difficulties of working in the COVID-19 ward. It is similar to the findings of Shen et al. (2020) where the main physical manifestations were decreased appetite or indigestion, fatigue, difficulty sleeping, nervousness, frequent crying, and even suicidal thoughts. Although the number of respondents facing physical challenges was small there is

need for staff welfare interventions to ensure that more nurses do not experience physical challenges.

5.5 Prevalence and categories of Social Challenges Encountered by Critical Care Nurses caring for patients with COVID 19

The study also sought to determine the prevalence and categories of sociological challenges encountered by critical care nurses caring for patients with COVID-19 at Kenyatta National Hospital critical care units. Social challenges referred to the adverse human interactions experienced by critical care nurses working with covid-19 patients within KNH/Medical CCUs. This included stigma, social isolation, conflicts with colleagues, strained interactions with others and isolation/loneliness. Majority of the respondents were diagnosed as having sociological challenges. The the major social challenges faced by the nurses included stigmatization and suspicion by the community while the minor challenges included disruption of relationships with relationship with their family and colleagues at work. This could be due to the community's negative attitudes towards COVID-19 occasioned by lack of knowledge and the prevalence of misleading myths and rumours about the disease and those working with the patients. This result is consistent with Demir and Şahin (2022) where nurses in Turkey reported that health workers were perceived as disease carriers by society and therefore, they felt excluded. In Iran, Chegini et al. (2021) also found negative experiences such as increasing social panic; growing rumours and false news; and failure to comply with health protocols. Similarly, Sezgin et al. (2021) found that nurses in Turkey reported experiencing fear of spreading the infection to their families and friends. This calls for more community health education and sensitisation on COVID-19 prevention measures

CHAPTER SIX: CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

The study concludes that:

The prevalence of psychosocial challenges encountered by critical care nurses caring for patients with COVID-19 at Kenyatta National Hospital critical care units was high. A high number of critical care nurses experienced psychological, physical or social challenges.

Psychological challenges encountered by critical care nurses caring for patients with COVID-19 at Kenyatta National Hospital critical care units were mainly anxiety and burnout due to the unknown nature of the disease and the increased workload.

Physical challenges encountered by critical care nurses caring for patients with COVID-19 at Kenyatta National Hospital critical care units were mainly back pain, exhaustion, and sleep disturbances probably due to the increased workload and procedures associated with isolation such as wearing PPE for long amounts of time.

Social challenges encountered by critical care nurses caring for patients with COVID-19 at Kenyatta National Hospital critical care units mainly included stigmatization by the community and colleagues as well as disruption of social life.

6.2 Recommendations

In light of the findings of this study, the researcher recommends that:

The management of KNH need to institute strategies for identifying, nurses and other health professionals facing various associated challenges, especially psychological and social challenges and proactively put in place support systems to mitigate such challenges.

The management of KNH ought to encourage critical care nurses to seek help when affected by psychological challenges. The management should ensure that the employee and professional support programs are well-resourced and accessible to encourage uptake by the nurses.

The ministry of health ought to recruit more critical care nurses at KNH and other public facilities to increase staffing. This should reduce workload thereby lowering the physical challenges such as back pain, exhaustion and sleep disturbances among existing nurses.

Health education campaigns conducted by the Ministry of Health ought to be emphasized and reviewed in order to avoid misunderstandings by the public. In addition to reducing stigmatization of patients and healthcare workers who take care of these patients, this strategy may also encourage the uptake of prevention and treatment programs.

6.3 Areas for Further Research

To deepen our understanding of the psychosocial challenges encountered by critical care nurses, the researcher recommends the following studies be carried out:

A study to find out the prevalence and factors associated with the utilisation of employee and professional support programs among critical care nurses at KNH.

A study to establish critical care nurses' perceptions and satisfaction with current PPE provided at KNH.

A study to assess community attitudes toward healthcare workers caring for patients with COVID-19

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APPENDICES

Appendix I: Participants Consent Information and Form

Title of the study: Determining the prevalence & categories of psychosocial challenges encountered by critical care nurses caring for covid-19 patients at Kenyatta National Hospital critical care units.

Researcher: Joan Gakenia Ricarda

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Introduction to the study: You are invited to take part in this study. It is voluntary and will be conducted in the Critical Care Medical CCU departments of KNH.

The Purpose of the study: To establish the prevalence and categories of the psychosocial challenges encountered by critical care nurses caring for covid-19 patients within KNH medical CCUs.

Why were you selected for this research? The reason you have been selected for this study is because you are a Critical Care Nurse who is caring or has cared for COVID-19 patients at KNH/Medical CCUs.

Procedure: Participating in this study will involve completing a questionnaire. Completing the questionnaire will take approximately 10-15 minutes. You will be asked questions about yourself and your work with a focus on pandemic's impact on your psychosocial wellbeing.

Benefit of the study: Participation in this research is unlikely to provide any immediate advantages other from allowing you to reflect on your current state of mental health and well-being. Participating in this study will help inform nursing leaders, nursing managers, health care organizations, and policymakers on how to effectively support a diverse nursing workforce during the Covid-19 epidemic and in the future. However, should you display symptoms of the challenges under investigation you will be referred appropriately for counselling.

Risks, stress and discomfort: There are no immediate risks or harms to you. However, contemplating the consequences of COVID-19 may elicit a sense of unease in some. Assuming such is the case, I strongly recommend that you seek out the assistance you need.

Cost and risk of loss of Confidentiality: Participation in this research will not involve any fees on your behalf and you will not be compensated in any way. The survey is completely anonymous and private. You will not be asked for your name or address during the research. All participants' replies will be pooled and examined to highlight overall patterns rather than studied one-by-one. There will be no payment so that respondents don't feel obligated to participate or give researcher information portraying the psychosocial challenges under investigation. However, you shall receive a compensation of 100 Kenya Shillings for purchasing data so as to avoid any financial harm that will be incurred while filling the questionnaire online.

Voluntary Participation and withdrawal: Please remember that your involvement is completely voluntary. Should you feel uncomfortable with the questions, you are free to end the interview. There are no consequences for doing so. Because this is an anonymous survey, you will not be able to retract your responses once you have submitted them.

Sharing of results: Once the study is completed. The findings may be presented in conferences or published in journals.

Participants' informed consent form,

As I understand it, the researcher has given me a clear picture of what the study will include, as well as the scope of my responsibilities. This study has given me ample time to review and ask questions. I am aware that my participation in this study is completely up to me, and that I can opt out at any moment without explanation. Filling out the questionnaire is something I'm willing to do for this project.

Signed by participant……………………Date…………………………….

In case of any issues or challenges related to this study, please contact the following researchers in the Departments of Nursing Sciences:

The principal researcher: Joan Ricarda - 0714 850 653, jojoricarda@gmail.com

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OR

The Ethical Review Committee Secretariat

KNH/UON ERC Secretariat on Tel.2726300 ext. 44102, uonknherc@uonbi.ac.ke.

Kenyatta National Hospital

School of Pharmacy - Board Room

Researcher's statement

At the time of this participant's permission, I hereby certify that I have fully explained the objective of this study, the potential advantages it may provide and the potential hazards it may carry.

Signature:_____   Date: _____

Appendix II: Data collection instrument

Study Title: Determining the prevalence & categories of psychosocial challenges encountered by critical care nurses caring for covid-19 patients at Kenyatta National Hospital critical care units.

Date: ……………………………………. Code: …………………………………………

Instructions

[1.]DO NOT indicate your name or contact

[2.]Answer ALL the questions

[3.]Any information you provide is CONFIDENTIAL

Section A: Nurses' socio-demographic information and Home life

1. What is your gender?

☐ Male

☐ Female

☐ Non-Binary

☐ Prefer not to say

2. What is your age in years?

☐ 21-30

☐ 31-40

61

□ 41-50

□ 51-60

3. What is your marital status?

□ Single

□ Married

□ Separated

□ Divorced

4. Do you have training in critical care nursing?

□ Yes

□ No

If yes, what is the level of training?

□ Higher diploma
□ Masters

5. How many years have you worked in your profession since graduation?

□ 0-5
□ 6-10
□ 11-15
□ More than 15 years

SECTION B: Psychological challenges faced by nurses caring for patients diagnosed with COVID 19.

6. Have you experienced or been diagnosed with any of the mental disorders listed below since the COVID-19 pandemic started? (***tick as appropriate***)

☐ Anxiety

☐ Burnout

☐ Depression

☐ PTSD

☐ Other mental health problem

…………………………………………………………………………………………

7. Prior to the COVID-19 pandemic had you ever been diagnosed with depression, anxiety, or another mental health condition?

☐ Yes

☐ No

If yes, which one?

…………………………………………………………………………………………

8. Since the COVID-19 pandemic started, have you sought help due to stress, anxiety, depression or another mental health issue? (Please select all that apply)

☐ Yes

☐ No

If yes, from where did you seek help?

☐ Doctor or psychologist

☐ Employee support program at my place of work

☐ Professional support program outside of work

☐ Other

………………………………………………………………………………………

Section C: Physical Challenges

9. Indicate how often you have experienced these symptoms in the last 12 months by ticking in the appropriate box.

1 -Often, 2-Occasionally, 3-Rarely, 4 -Never

	Often	Occasionally	Rarely	Never
Exhaustion				
Back pain				
Sweating				
Breathlessness				
Sleep disturbances				
Lack of appetite				
Numbness				

SECTION D: Sociological challenges faced by nurses caring for Covid-19 patients

10. Has the COVID-19 pandemic had an impact on your relationships with family, friends and work partner colleagues?

☐ Yes

☐ No

If yes, how?

☐ I have a closer or stronger relationship with my partner

☐ I have a closer or stronger relationship with my children/parents/family

☐ I have a closer or stronger relationship with my friends

☐ I have a closer or stronger relationship with my work colleagues

☐ I have a worse relationship with my partner

☐ I have a worse relationship with my children/parents/family

☐ I have a worse relationship with my friends

☐ I have a worse relationship with my work colleagues

☐ No effect on relationship

11. Respond to the items in the table using the scale indicated below.

1 – Strongly Disagree, 2 – Disagree, 3 – Neutral, 4 – Agree, 5 – Strongly Agree.

Statements on sociological related challenges	1	2	3	4	5
I feel that some of the family members and friends have not been very empathetic and supportive					
My spouse/partner and/or immediate family has not been very supportive during the covid-19 pandemic					
I have experienced social stigmatization from some of the community members					
The community is worried that health workers will spread the virus to others					
The community is generally appreciative of health workers during this time					
My social life has been greatly restricted being a frontline health care worker					
Having worked with Covid-19 patients, I have experienced social stigmatization from my colleagues					
If I contract COVID-19, colleagues will question whether I took sufficient precautions					
I have worked with limited resources (PPE, medications, ventilators, staff, etc.)					
The education I have received so far about COVID-19 at my workplace have been useful and timely					
My income has been altered due to COVID-19 pandemic?					
My wellbeing and mental health during the COVID-19 pandemic have been supported very well by my employer					

~Thank you for your participation~

Appendix III: Recruitment Poster

INVITATION TO PARTICIPATE IN A RESEARCH STUDY

This is to encourage you to take part in this study.

Title of study: prevalence and categories of psychosocial challenges encountered by critical care nurses caring for patients with covid-19 at Kenyatta national hospital critical care units.

Background: While caring for patients during the pandemic, CCNs are affected by physical, psychological as well as social challenges.

The Purpose of the study: To establish the prevalence and categories of the psychosocial challenges encountered by critical care nurses caring for covid-19 patients within KNH medical CCUs.

Study area: It will be conducted in the Critical Care Medical CCU departments of KNH 7A and 8A.

Eligibility Criteria: Critical care Nurses who are willing to participate and have cared for COVID-19 patients within KNH/CCU in Medical CCUs 7A and 8A.

Your participation is voluntary and highly appreciated. Kindly contact the principal investigator for inclusion into the study.

Researcher: Joan Gakenia Ricarda

Institutional Affiliation: University of Nairobi (Faculty of Health, Department of Nursing Sciences, University of Nairobi)

Supervisors: Dr. Miriam.C. A. Wagoro

Dr. Eunice.A. Omondi

For any enquiries regarding this study please contact the primary researcher via:

Email: jojoricarda@gmail.com

Telephone number: 0714 850 653/ 0738 99 66 99

Appendix IV: Letters of Authorization

UNIVERSITY OF NAIROBI
FACULTY OF HEALTH SCIENCES
P O BOX 19676 Code 00202
Telegrams: varsity
Tel:(254-020) 2726300 Ext 44355

KNH-UON ERC
Email: uonknh_erc@uonbi.ac.ke
Website: http://www.erc.uonbi.ac.ke
Facebook: https://www.facebook.com/uonknh.erc
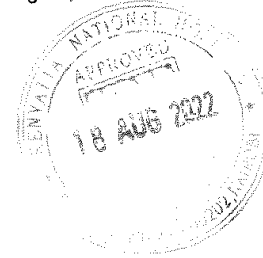Twitter: @UONKNH_ERC https://twitter.com/UONKNH_ERC

KENYATTA NATIONAL HOSPITAL
P O BOX 20723 Code 00202
Tel: 726300-9
Fax: 725272
Telegrams: MEDSUP, Nairobi

Ref: KNH-ERC/A/308

18th August, 2022

Joan Gakenia Ricarda
Reg. No. H56/37337/2020
Dept. of Nursing Sciences
Faculty of Health Sciences
University of Nairobi

Dear Joan,

RESEARCH PROPOSAL: PREVALENCE AND CATEGORIES OF PSYCHOSOCIAL CHALLENGES ENCOUNTERED BY CRITICAL CARE NURSES CARING FOR PATIENTS WITH COVID-19 AT KENYATTA NATIONAL HOSPITAL CRITICAL CARE UNITS (P367/04/2022)

This is to inform you that KNH-UoN ERC has reviewed and approved your above research proposal. Your application approval number is **P367/04/2022**. The approval period is 18th August 2022 – 17th August 2023.

This approval is subject to compliance with the following requirements;
  i. Only approved documents including (informed consents, study instruments, MTA) will be used.
  ii. All changes including (amendments, deviations, and violations) are submitted for review and approval by KNH-UoN ERC.
  iii. Death and life threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to KNH-UoN ERC 72 hours of notification.
  iv. Any changes, anticipated or otherwise that may increase the risks or affected safety or welfare of study participants and others or affect the integrity of the research must be reported to KNH-UoN ERC within 72 hours.
  v. Clearance for export of biological specimens must be obtained from relevant institutions.
  vi. Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. Attach a comprehensive progress report to support the renewal.
  vii. Submission of an executive summary report within 90 days upon completion of the study to KNH-UoN ERC.

Protect to discover

Prior to commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology and Innovation (NACOSTI) https://research-portal.nacosti.go.ke and also obtain other clearances needed.

Yours sincerely,

DR. BEATRICE K.M. AMUGUNE
SECRETARY, KNH-UoN ERC

c.c.   The Dean, Faculty of Health Sciences, UoN
       The Senior Director, CS, KNH
       The Chairperson, KNH- UoN ERC
       The Chair, Dept. of Nursing Sciences, UoN
       Supervisors: Dr. Miriam C.A. Wagoro, Dept. of Nursing Sciences, UoN
               Dr. Eunice A .Omondi, Dept. of Nursing Sciences, UoN

Protect to discover

KENYATTA NATIONAL HOSPITAL
P.O. Box 20723-00202 Nairobi

Tel.: 2726300/2726450/2726565
Research & Programs: Ext. 44705
Fax: 2725272
Email: knhresearch@gmail.com

Study Registration Certificate

1. Name of the Principal Investigator/Researcher
   JOAN GAKENIA RICARDA

2. Email address: Joanricarda@students.uonbi.ac.ke   Tel No. 0714850653

3. Contact person (if different from PI)...

4. Email address: ....   Tel No. ....

5. Study Title
   PREVALENCE AND CATEGORIES OF PSYCHOSOCIAL CHALLENGES
   ENCOUNTERED BY CRITICAL CARE NURSES CARING FOR PATIENTS
   WITH COVID-19 AT KENYATTA NATIONAL HOSPITAL CRITICAL CARE UNITS

6. Department where the study will be conducted KNH MEDICAL CRITICAL CARE UNITS
   (Please attach copy of Abstract)

7. Endorsed by KNH Head of Department where study will be conducted.

   Name: Dr K Ndege...... Signature .... Date ....

8. KNH UoN Ethics Research Committee approved study number P367/04/2022
   (Please attach copy of ERC approval)

9. I JOAN GAKENIA RICARDA _____ commit to submit a report of my study
   findings to the Department where the study will be conducted and to the Department of Medical
   Research.

   Signature.......................... Date 23/08/2022

10. Study Registration number (Dept/Number/Year) Medicine 238/2022
    (To be completed by Medical Research Department)   2 5 AUG 2022

11. Research and Program Stamp _____

All studies conducted at Kenyatta National Hospital **must** be registered with the Department of Medical
Research and investigators **must commit** to share results with the hospital.

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