CORRELATES OF STRESS AND COPING MECHANISMS AMONG NURSES IN THE CRITICAL CARE UNITS, KENYATTA NATIONAL HOSPITAL IN KENYA

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SEPTEMBER 2025,

DECLARATION

Student

I declare that this thesis is my original work and has not been presented for a master's degree at any other university or for any other award.

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DEDICATION

The thesis is dedicated to God, my family, and my supervisors for their support during my research.

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First, thanks to Almighty God for the gift of life, good health, resources, and the strength to go through this Project.

Secondly, I would like to express my sincere appreciation and recognition to my supervisors, Lucy Meng'anyi, Grace Gachuiri. Despite their tight schedules, they guided me through every step of my proposal.

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LIST OF ABBREVIATIONS

B COPE	Brief Coping Orientation to Problems Experienced
CCU	Critical Care Unit
DASS	Depression Anxiety Stress Scale
ENSS	Expanded Nursing Stress Scale
KNH	Kenyatta National Hospital
MTRH	Moi Teaching and Referral Hospital
NACOSTI	National Commissions for Science, Technology, and Innovation
NICU	Neonatal Intensive Care Unit
PICU	Pediatric Intensive Care Unit
PSS	Perceived Stress Scale

DEFINITION OF TERMS

Coping mechanisms These are strategies nurses in the critical care units use to adjust to their work and maintain their well-being when faced with stressors in the hospital (Muteb et al., n.d.)

Correlates are the relationship between variables when a change in one variable leads to a change in other variables in the same or opposite direction. The correlation is between stress levels and coping mechanisms. Also, between the coping mechanism and social demography (McLeod, 2023)

Stress is a feeling of physical or psychological emotion that occurs when a nurse's situation regarding care or workforce is more complex, unclear, and demanding than the capabilities, resources, or strength. (Asimah Ackah & Adzo Kwashie, 2023)

Stressors are stimuli that increase tension among nurses working in the Critical care unit. They can be physical labor, patient suffering, emotional demands, workloads, or interpersonal factors. (Segal et al., 2025)

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ABSTRACT

Background: Critical Care Units (CCUs) usually admit patients who are critically ill and have life-threatening conditions. When sudden patient deaths occur, it can negatively impact their psychological well-being and health. **Aim:** To determine the correlates of stress and coping mechanisms of nurses in the critical care units at Kenyatta National Hospital. **Methods:** A quantitative cross-sectional analytical design was adopted, and from May to June 2022, convenience sampling was used to recruit 149 nurses. A self-reporting questionnaire with four sections on social demographic factors, Perceived Stress Scale, causes of stress, and Brief Coping Inventory was utilized. The Stata software was used to analyze data. Descriptive statistics and data were presented in tables, charts, and graphs. Spearman correlation, Wilcoxon rank test, and Kruskal-Wallis test were used to analyze the relationship between variables. The Researcher received approval from Kenyatta University's ethical and research Committee, the National Commission for Science, Technology, and Innovation, and Kenyatta National Hospital/the University of Nairobi Ethics Research Committee. The guidelines for preventing COVID-19 were adhered to during the data collection process. **Results:** The Majority (87.8%) of CCU nurses had moderate stress levels. Work-related stress was the most common cause, with an overall mean of 2.34±0.36, and positive coping mechanism was the most utilized mechanism by nurses, with a mean of 5.35±1.27. There was a significant positive correlation between stress levels and avoidant coping mechanisms. Also, the findings revealed a significant relationship between coping mechanisms and critical care training, plus Education Level. **Conclusion:** The stress levels of nurses in the critical care units were moderate due to poor coping mechanisms. The KNH hospital should host more workshops/training sessions on work-related stress and its management techniques. These will encourage an inclusive and diverse environment for active discussion on any concerns found in the clinical setup and how to address them.

CHAPTER ONE: INTRODUCTION

1.1 Background Information

A study in 27 European countries shows that 22% of nurses suffered from stress. The annual budget for work-related stress increased to 20 billion Euros in 15 European countries. (Akhtar et al., 2019). According to Hailu et al. (2020), stress is a global problem, and the estimated percentage of nurses suffering from stress globally is 9.20% to 68.0%. The approximate cost of work-related stress globally is $5.4 billion each year. This study will help lessen stress among nurses in CCUs, hospitals, and society. According to this study, further analysis of stress levels and coping mechanisms is needed.

In sub-Saharan Africa, stress among ICU nurses is present every day. In South Africa, it was noted that 51% of healthcare providers experienced stress (Govender et al., 2016). Furthermore, a study conducted in Ethiopia found that 32.7% of ICU nurses experienced work-related stress (Hailu et al., 2020). Another survey by Tekeletsadik et al. (2020b) at a Specialized Mental Hospital in Addis Ababa, Ethiopia, showed that the prevalence of occupational stress among nurses was 46.8%. These findings indicate that stress is a significant public health concern among healthcare workers, especially nurses. Therefore, much evaluation is needed on managing stress before it becomes uncontrollable.

In East Africa, work-related stress poses a significant challenge to the quality of care provided by healthcare workers. A study conducted in Tanzania among CCU nurses

shows that 38% had a high stress level, challenging health care quality. (Munyanziza et al., 2021). Another study in Uganda revealed a high prevalence of burnout among nurses, with 39.8% exhibiting significant burnout.(Kabunga et al., 2024)

In Kenya, many nurses in the critical care unit usually experience more stress than other nurses due to the nature of their work. The study findings further showed that most nurses felt stressed and frustrated when providing care that was of no benefit to the patient. (Teresa, 2018). Data gathered from the Health Information Department at Kenyatta National Hospital (KNH) in a 2018 study showed that patients with severe head injuries occupied 60% of the Critical Care Unit (CCU) bed capacity, and 40% received futile care. Also, according to findings from ICU nurses and managers, 100% reported facing significant challenges when supporting patients and their families.(Iqbal, 2022). A study done at Kenyatta National Hospital indicates that the majority of ICU nurses suffered from burnout syndrome and compassion fatigue, due to factors such as workloads, patient suffering, and inadequate institutional support. (Murithi et al., 2025).

Studies conducted at KNH in the past focused on identifying causes of stress. Therefore, the researcher studied stress levels, coping mechanisms, causes of stress, and the association between stress levels and coping mechanisms among nurses in KNH's CCUs. This undertaking was vital, especially during this era of COVID-19.

1.2 Problem Statement

Critical Care Units (CCUs) admit patients who are critically ill with life-threatening conditions, most of which fall under Level 3 in the Intensive Care Society's 2009 Levels of Care classification. (Medicine, 2019). CCU nurses at KNH provide direct care to severely ill patients, and most of the time, the majority of them do not survive. This repeated exposure to death and suffering often leads to emotional attachments between nurses, patients, and their families. When sudden patient deaths occur, it can negatively impact their psychological well-being and health.

Many nurses in CCUs report high stress levels caused by ongoing grief, frequent losses, and the ethical burden of providing futile care. Compared to nurses in other departments, CCU nurses often witness complex procedures, intense suffering, and high death rates—factors that are known to increase stress and the need for psychological support (Alharbi et al., 2019). If unmanaged, stress can raise stress levels among nurses, reduce well-being, impair service quality, and harm the institution's reputation.

The COVID-19 pandemic further intensified these stressors, exposing nurses to infectious diseases and putting their families at risk. However, debriefing and counseling services at KNH remain inadequate. While professional counseling is available to patients and families, nurses do not have consistent access to these resources. This is troubling, considering research showing that counseling can reduce work-related stress for over half of clients. (Greenwood (2017),

This study seeks to assess the stress levels, identify everyday stressors, and explore coping mechanisms among CCU nurses at KNH to inform targeted interventions to promote nurse well-being and patient safety.

1.3 Justification

Since removing work-related stress from nurses' lives is impossible, there is a need to collect data that may provide documented evidence on stress levels among the nurses working in the CCU. In addition, the data may pinpoint the gap in caring for the caregiver. There is also a need to collect data identifying the familiar sources of stress and positive and negative coping strategies among nurses in CCU.

Therefore, there was a need to undertake this research to provide baseline findings on the correlates of stress and coping mechanisms among nurses working in the CCU at KNH. The results helped the researcher understand different effective coping mechanisms nurses utilize when facing life challenges. Also, it helped identify effective coping strategies that will guide the KNH administration in formulating measures to deal with nurses' stress levels.

1.4 Research Questions

1. What are the stress levels of nurses in the critical care units at Kenyatta National Hospital?
2. What causes stressors among nurses working in the critical care units at Kenyatta National Hospital?
3. What are the stress-coping mechanisms of nurses in the critical care units at Kenyatta National Hospital?

4. What is the relationship between stress levels and coping mechanisms of nurses in the critical care units at Kenyatta National Hospital?
5. What is the relationship between stress coping mechanisms and socio-demographic characteristics of nurses in the critical care units at Kenyatta National Hospital?

1.5 Research Objectives

1.5.1 Main Objective

To determine the correlates of stress and coping mechanisms of nurses in the critical care units at Kenyatta National Hospital.

1.5.2 Specific Objectives

1. To assess the perceived stress levels among nurses working in the critical care units at Kenyatta National Hospital using the PSS Score.
2. To determine causes of stressors among nurses working in the critical care units at Kenyatta National Hospital.
3. To determine the coping mechanisms of nurses in the critical care units at Kenyatta National Hospital.
4. To determine the relationship between stress levels and coping mechanisms of nurses in the critical care units at Kenyatta National Hospital.
5. To establish the relationship between stress coping mechanisms and socio-demographic characteristics of nurses in the critical care units at Kenyatta National Hospital.

1.6 Hypothesis

H_0: There is no statistically significant relationship between stress level and coping mechanisms of nurses in the critical care units at Kenyatta National Hospital.

H_0: There is no statistically significant relationship between stress coping mechanisms and socio-demographic characteristics of nurses in the critical care units at Kenyatta National Hospital

1.7 Significance of The Study

The study Insights will inform hospital administrators and psychologists about the mental strain experienced by CCU nurses. Understanding the stressors and coping strategies can guide the development of targeted interventions such as debriefing sessions, counseling support, and wellness programs that enhance nurse well-being and job satisfaction.

The research findings may influence policy frameworks related to occupational health and structured support systems such as dedicated mental health resources for nurses, which could improve patient care outcomes and institutional resilience, especially during health crises. Therefore, focusing on stress levels and coping mechanisms among Critical Care Unit (CCU) nurses at Kenyatta National Hospital (KNH) addresses a pressing issue within frontline nursing that has been historically underexplored in the Kenyan context.

1.8 Limitation

Due to shift demands and patient care responsibilities, CCU nurses had limited uninterrupted time (15–30 minutes) to complete the questionnaire. As a solution, the

researcher allowed nurses to fill out the forms during their shifts and collected them at the end of each shift.

1.9 Theoretical Framework

The transactional theory of stress and coping mechanism, developed by Dr. Richard Lazarus in 1966, and Dr. Susan Folkman later corroborated it in 1984, was used. The model was used to study stress and coping among CCU nurses since it captures the complexity of how they perceive and respond to stress in high-stakes environments. The first step in the transaction process is primary appraisal, where a nurse assesses whether a situation is threatening, challenging, or manageable. When the CCU nurse perceives a threat/harm/challenge, she will go to secondary appraisal. In secondary appraisal, nurses evaluate their resources regarding sociodemographic factors such as age, sex, marital status, qualification, training in CCU, type of training, duration in CCU, and role played in the ward. Also, in this stage, they focus on evaluating one's coping resources and options. If the situation outweighs the resources, a person ends up having stress. Finally, the last step is reappraising the situation and assessing if the coping has worked. If not, nurses will evaluate other options that they might use to cope with the problem. As applied to this study, the factors that influence stress levels and coping mechanisms are my independent variables, the first being demographic factors: age, sex, marital status, qualification, training in CCU, type of training, duration in CCU, and role played in the ward. The second was Individual/personal and Work-related stressors. Finally, the dependent variables are the effects or responses we are measuring. These include stress levels, such as high, moderate, and low, as well as coping mechanisms, problem focus, emotional focus, and avoidant coping. (Lazarus & Folkman, 1987)

1.10 Conceptual Framework

Independent Variables **Dependent Variables**

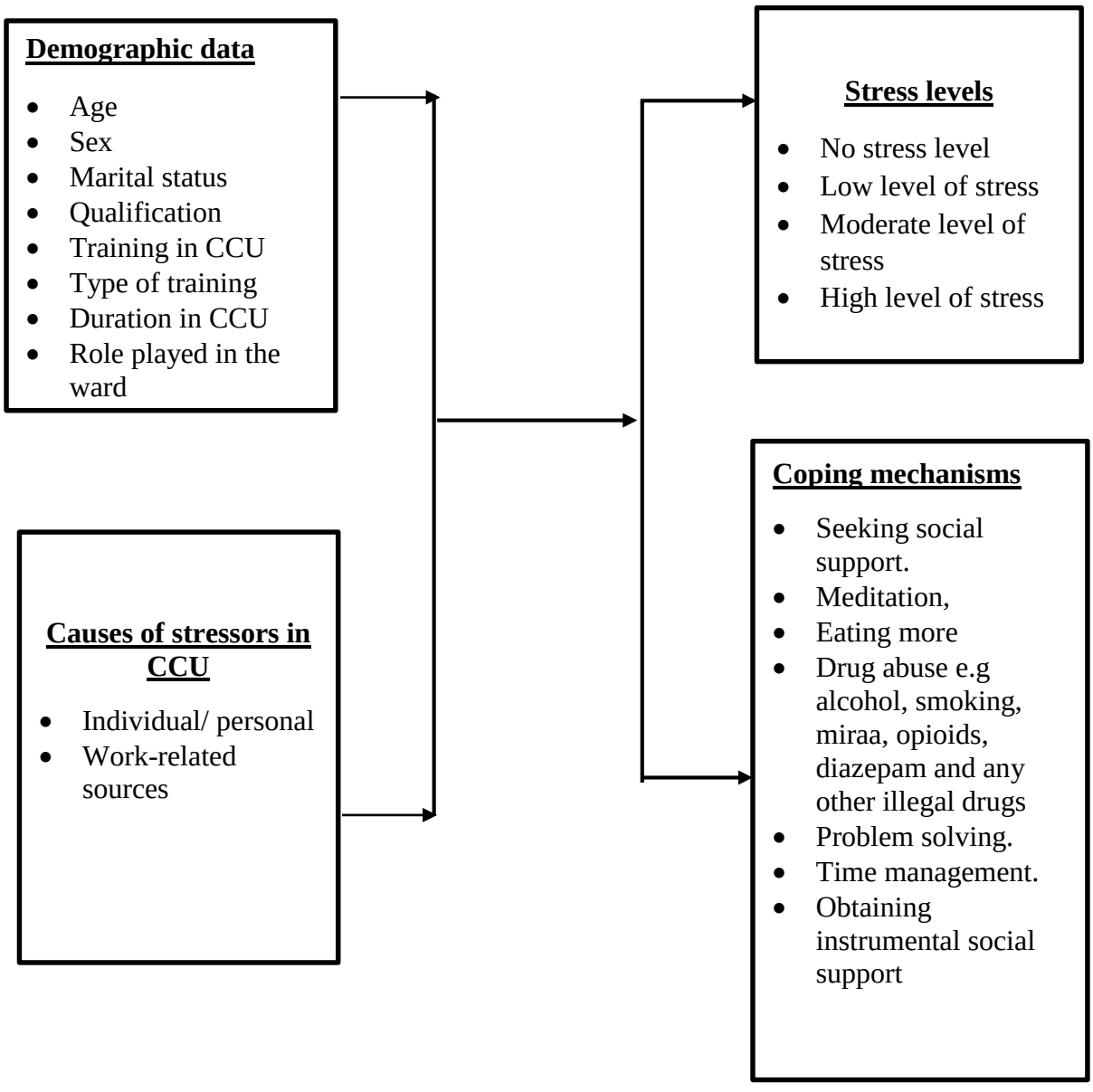

Figure 1: Conceptual Framework Based on Lazarus and Folkman's Transactional Model of Stress and Coping

Source: (researcher 2023)

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

The literature review covered the existing studies on stress and coping mechanisms among critical care nurses and the theoretical framework. The first part was the synthesis of empirical sources, and part 2 was the gap in research identification based on the research objectives and significance of the study.

2.2 Empirical Literature Review

In this part, the Researcher synthesized the existing reviews on the study objectives, including the stress levels, common causes of stress, coping mechanisms, the correlation between nurses' stress levels, and coping mechanisms among nurses in critical care.

2.2.1 Level of Stress Among Nurses

Globally, they describe the CCU environment as highly stressful for nurses who work there. The CCU has highly technological equipment in the hospital that provides comprehensive and continuous care for very ill patients; hence, nurses must make quick, sensitive decisions to save lives.

Many authors have reported varying magnitudes of stress among nurses working in CCU, and most of the studies revealed that nurses in CCU had higher to moderate stress levels than any other nurses in the hospital. (Bolado et al., 2024). In the USA, 93% of nurses and 68.3% of Chinese nurses had high levels of work-related stress, which shows that work-related stress among ICU nurses is a global problem.(Tsegaw et al., 2022).

A cross-sectional study done in the Hail Region, Saudi Arabia, to examine the link between burnout and QoL among 265 CCU nurses revealed that ICU nurses experienced more pronounced stress levels and burnout than other nursing specialties. One-fifth of their ICU nurses were more likely to experience severe stress and burnout than other nurses in a different department. (Villagracia et al., 2025)Therefore, the stress level needs to be determined, and these findings will help determine whether nurses in the CCU have been engaging in any coping mechanisms.

In Eastern Africa, stress is a significant concern for the nursing profession since many nurses suffer from stress-related burnout. In a cross-sectional mixed-method study conducted at two specialized comprehensive hospitals in southern Ethiopia, CCU and Emergency room nurses revealed that most of them had moderate to high stress levels.(Bolado et al., 2024)

A cross-sectional study was conducted among 429 nurses in major referral hospitals in Kenya to explore the effects of organizational culture, work-related stress, and job satisfaction on nurses' job and professional turnover intentions. The data analysis showed that work-related stress was moderately high ($M = 2.92$, $SD = 0.51$), and job satisfaction was low, with only 56.6% of nurses reporting satisfaction.(Kiptulon et al., 2025)

A study was performed in Kenya to examine the prevalence of burnout, compassion fatigue, and CS among KNH CCNs. The study was a randomized controlled trial in the Critical Care Unit, where 156 registered nurses working in the Critical Care Unit for at least six months were selected and divided equally into intervention and control groups through simple random sampling. The result showed that 33% of CCU nurses

experienced moderate to high levels of burnout, with the highest prevalence among nurses with fewer than two years of experience (M = 28.5, SD = 9.3).(Murithi et al., 2025).

Although research has been conducted on stress levels among nurses, there are limited studies on the topic among CCU nurses at KNH. The few studies conducted in KNH focus on the prevalence of burnout, but this study aimed to determine the stress levels among CCU nurses using the Perceived Stress Scale.

2.2.2 Causes of Stress Among Nurses Working in CCU

In India, an observational mixed-methods study was conducted in a CCU at a tertiary teaching hospital in Kerala in July 2024 to identify stress and burnout among critical care nurses. It was noted that 86.7% of participants experienced moderate to high levels of work-related stress, with key stressors including work overload, inadequate staffing, logistics, team dynamics, and management support.

A study was performed in Ghana to explore the experiences of ICU nurses providing end-of-life (EOL) care at the Ho Teaching Hospital. The study employed an exploratory qualitative design, and semi-structured interviews were used to gather data from the nurses who had experience providing EOL care to patients. Most CCU nurses described the work as extremely stressful and emotionally draining. The significant challenges revealed from the interviews with CCU nurses were: inadequate equipment, understaffing, excessive workloads, and managing family-related issues.(Dartey et al., 2025).

A cross-sectional quantitative study was done at KNH among CCU health workers. The study aimed to assess the prevalence and social demographic predictors of moral injury among 198 CCU health workers. The findings revealed that a high prevalence of moral injury was due to stressors and challenges encountered by the CCU health workers. (Joseph, 2023)

2.2.3 Coping Mechanisms among CCU Nurses

According to Lazarus and Folkman's transactional theory, coping is a process, and the most appropriate and practical ways of dealing with stressful encounters are problem-focused and emotion-focused. (Stanisławski, 2019)

In Saudi Arabia, a mixed-methods approach was used, combining a quantitative descriptive cross-sectional design with qualitative methods through semi-structured interviews to assess the stress levels of CCU nurses and their coping strategies using the Brief-COPE scale. According to the Brief-COPE scale, the most common coping strategies employed by the CCU nurses included religious activities, approach coping, humor coping, and avoidant coping.

A qualitative study based on Heideggerian phenomenology was conducted in China to explore the coping experiences of CCU nurses following their encounters with professional grief. This research revealed that adaptive and maladaptive coping strategies are the two main mechanisms used to handle professional grief, significantly impacting their personal and professional well-being. (Zhang et al., 2024)

Descriptive qualitative study conducted in the medical and surgical intensive care units of a Northern Taiwan medical center, to identify the coping strategies for dealing with

the constant inundation of medical device alarms were five strategies: (1) Mastering alarm signals and acting; (2) Team monitoring for life preservation; (3) Enhancing senses and distinguishing carefully; (4) Learning from the lessons of incidents for vigilant reflection; and (5) Detach alarms' influence on daily life. These strategies were crucial in maintaining patient safety and reducing nurse alarm fatigue.(Lu et al., 2024)

A cross-sectional descriptive study was conducted among Tanzanian nurses to assess the work-related perceived stress level and coping strategies among CCU nurses at Ashraff Memorial Hospital. The result showed most nurses (96%) used positive thinking as their primary coping mechanism; other commonly used mechanisms were time management and religion.(Sutharshan et al., 2021)

A case study was conducted in Kenya, and thirty nurses were employed at Homa-Bay Teaching and Referral Hospital in the South Sub-County. It was documented that the two main ways to cope with burnout were resilience and social support systems.

Also, most of those who reported using the problem-solving approach said they usually tried to weigh their options to resolve the current situation, such as accepting or adapting to the stressful situation. (Muriithi et al., 2020).

The findings of this study enable people to understand the different coping mechanisms nurses use. However, the findings cannot be generalized to CCU. Also, coping mechanisms are subjective and can change depending on the situation or individual.

2.2.4 Relationship between coping mechanisms and nurses' socio-demographic characteristics

A cross-sectional study was done among CCU nurses to examine the prevalence and relationships of stress and coping strategies. Pearson correlation coefficients were computed to investigate the relationships between stress, coping mechanisms, and social demographics. Independent t-tests and ANOVA tests were used to explore differences in the means of variables. It was noted that despite facing moderate levels of stress, nurses utilized various methods to manage their anxiety, and the most prevalent was planful problem-solving.(Mohebi et al., 2018).

Research was conducted in three major public hospitals in Iraq. The descriptive observational method and cross-sectional design were used to assess the prevalence and characteristics of stress and

coping among ICU nurses in Iraq. The findings revealed a negative correlation between stress and problem-focused coping and a positive correlation with emotion-focused coping.(Ibrahim et al., 2025).

A study done in Brunei Hospital showed a correlation between stress coping mechanisms and some nurses' social demography. Married nurses use confrontative coping more than single nurses during stressful situations. (Isa et al., 2019). Problem-solving is one of the effective coping mechanisms for reducing stress levels among nurses in CCU. However, findings from Mohamed (2016) revealed a weak negative relationship between problem-solving coping and age, sex, marital status, and years of experience. Young nurses with fewer years of experience cannot use social support management when faced with challenges in their workplace. The inability to

communicate their problem increases the chances of young nurses experiencing high burnout compared to older nurses. (Mohamed, 2016; Muriithi et al., 2020).

2.2.5 Gaps From Existing Reviewed

Most existing studies on nurse stress and coping are based on global countries, especially Western or high-income countries. There's a lack of localized research that reflects the unique challenges critical care nurses face in Kenya, such as personal factors, since most research focuses on work-related factors. That is why there is a need to do this research in low-income countries like Kenya to see the source of stress and coping mechanisms. Although research has been conducted on stress levels among nurses, there are limited studies on the topic among CCU nurses at KNH. The few studies conducted in KNH focus on the prevalence of burnout, but this study aimed to determine the stress levels among CCU nurses using the Perceived Stress Scale.

There is little existing research on the correlation between stress level and coping mechanism among CCU nurses globally, and in Kenya, there is almost none. That is why there is a need to find out the relationship between these two variables. Also, in Kenya, no research has used the stress level tool PSS score by Cohen and a Brief COPE inventory for coping mechanisms by Carver, C.S., to find out the correlation of the data. Most studies show mixed results on how social demographics influence stress coping styles. There's no consensus on whether certain demographic groups consistently use problem-focused, emotion-focused, or avoidant coping strategies. Hence, the need to undertake this research to understand the association of social demographics and coping mechanisms by Carver

CHAPTER THREE: MATERIALS AND METHODS

3.1 Introduction

In this chapter, the researcher discusses the study design and the location where the study was conducted. The other information in this chapter includes: the sample size calculation, the validity and reliability of the data, the tools and process used for data collection, the data collection and analysis process, ethical considerations, and limitations in this study.

3.2 Study design

The researcher employed a cross-sectional, analytical, quantitative study design to investigate the correlates of stress and coping mechanisms among CCU nurses. This design was chosen because the study was conducted at a single point in time to capture a snapshot of psychological responses within a high-pressure clinical environment, aligning with the study's objective without manipulating variables

3.3 Study variables

The independent variables included stressors and socio-demographic characteristics: age, sex, marital status, religion, education, CCU training, type of training, duration in CCU, and role in the ward. The dependent variables were the stress coping mechanism and the stress level, which were categorized as no stress, low, moderate, or high stress.

3.4 Study setting

The study was conducted at Kenyatta National Hospital (KNH) in Upper Hill, Nairobi County. As a Level 6 national referral hospital, KNH was chosen due to its high patient volume and multiple critical care units, more than other referral hospitals. These CCU

units include a pediatric Critical Care Unit, Neurology CCU, Cardiac CCU, Maternity CCU, Two Medical CCUs, Private CCU, and Main CCU. All units have a bed capacity of 5, except the Main CCU, which has 21 beds.

3.4.1 Study population

The study population consisted of nurses working in the critical care units at KNH. These nurses were selected due to their work, which involves caring for critically ill patients, in contrast to nurses in non-critical units. From April to May 2022, a total of 245 nurses who were working in 7 different units of CCUs at KNH were used as a study population. These CCU units include: Pediatric Intensive Care Unit (PICU) with 26 nurses, Neurology CCU with 17 nurses, Cardiac with 19 nurses, Maternity with 18 nurses, Two Medical CCUs with nurses, Private CCU with nurses, and Main CCU with nurses.

3.4.2 Inclusion criteria

The researcher included all registered nurses who had worked in CCU for more than six months in the study hospital, either CCU-trained or non-CCU-trained, and consented to participate.

3.4.3 Exclusion criteria

The researcher excluded those nurses who had worked in CCU for more than six months in the study hospital but declined to participate in the research, as well as nurses working in the NICU.

3.5 Sampling procedure

3.5.1 Sample size determination

Cochran's formula with a finite population determined the sample size.

What's given in the problem

Population size: N=245

Cochran's formula for infinite population n = (z2pq)/d2

z = the standard deviation at 95% confidence interval (= 1.96).

p = the proportion in the target population estimated to have faced stress, which was unknown; hence, 0.5 was used for maximum variability

q =1-p,

d margin of error (0.05)

$$n = [(1.96 \times 1.96) \times (0.5 \times 0.5)] \div (0.05 \times 0.05)$$

$$n = 384$$

The finite population correction formula:

nf= n/[1 + (n/N)]

n: The initial sample size calculated in the 1st step

N: The total size of the finite population

$$nf = 3\,84 \,/\, [1 + (384 \div 245)]$$

$$nf = 149\ nurses$$

3.5.2 Sampling Method

KNH was purposively selected due to its status as a Level 6 hospital with many critical care units and a steady influx of critically ill patients, relative to other referral hospitals. Although KNH has eight CCU units, sampling excluded the NICU due to the distinct stressors experienced by neonatal nurses caring for premature infants with unique developmental needs. Consequently, findings from NICU nurses would not be generalizable to the other CCUs.

Quota sampling was used to ensure proportional representation from each unit. Based on the total CCU nurse population (245), each unit's sample share was calculated using proportional allocation. After determining the unit-specific sample sizes, convenience sampling was employed to recruit participants, considering that nurses work three rotating shifts every 24 hours.

The sampling technique used was quota sampling, where the population was divided into subgroups (quotas), and a predetermined number of participants were selected from each subgroup to ensure representation from every CCU. The quota sample size per unit was determined based on a sample size of 149 nurses. The total CCU nurse population of 245 was divided into quotas according to the number of nurses in each unit. The percentage distribution of each unit within the total population was calculated using proportional allocation, as shown in. Once the sample size per unit was established, convenience sampling was employed to recruit participants, as the nurses in each unit work in three shifts within 24 hours.

3.6 Pre-testing

The pre-testing was conducted at the Accident and Emergency Department of Kenyatta National Hospital (KNH) in Nairobi County. This department includes a minor Critical Care Unit (CCU), and the majority of its nurses are trained in critical care. In the Accident and Emergency unit, 14 nurses representing 10% of the study sample size were selected to respond to the questionnaire. The pre-testing helped evaluate the validity of the questionnaire and assess its clarity and comprehensibility.

3.6.1 Reliability and Validity of the Instruments

The construct reliability was evaluated using Cronbach's alpha (α), which consistently tested the intended measure. To assess the dependability of the study tool, a pretest was conducted in acute rooms of accident and emergency departments at KNH. The Cronbach's Alpha index was excellent after the reliability analysis. The PSS Score had a Cronbach's alpha of 0.75, the Common Causes of Stress had an alpha of 0.85, and the Brief Cope Inventory had an alpha of 0.86. A score higher than 0.7 indicates that the data-collection instruments have high internal consistency. For all three tools, content validity was confirmed through expert review by nursing professionals.

Table 1: Test for Reliability (n=14)

Variable	No. of items	Cronbach's Alpha index	Remarks
Perceived stress	10	0.75	Reliable
Common causes of stressors	16	0.89	Reliable
Brief cope mechanism	28	0.86	Reliable

Source: Field Data (2020)

Therefore, the study construct was reliable due to a high index of over 0.7 between the related items in the study variables.

3.7 Data collection method

A self-report questionnaire consisted of four parts: Part A included sociodemographic characteristics such as age, sex, marital status, and years of work experience. Part B: The Perceived Stress Scale (PSS), developed by Cohen and validated by psychologists, was used to assess respondents 'stress levels. The scale comprises a 10-item questionnaire with a five-point scale (0-4), ranging from 0 - never to 4 - reasonably often. Since Likert scale analysis requires responses to be in either ascending or descending order, items 4, 5, 7, and 8 were reversed (0 -> 4, 1-> 3, 2-> 2, 1-> 3, 4-> 0). The PSS score was calculated by summing responses across all items, ranging from 0 to 40- higher scores indicating greater stress. Scores are generally categorized as: low stress (0-13), reflecting good coping; moderate stress (14-26), indicating some challenges; and high stress (27-40), representing significant difficulties. Students are allowed free access to and use of the PSS-10 by Cohern. The scores are further grouped into levels: 0-13 (low stress), 14-26 (moderate stress), and 27-40 (high stress) (Cohen & Williamson, 1988)

Part C consisted of causes of stress formulated by the researcher and validated by the supervisors to assess the causes of occupational stress among critical care nurses. The tool consists of 16 stressor items questions categorized into work-related (11 items) and personal sources (5 items). Responses were captured using a five-point Likert scale ranging from 'never' (0) to 'always' (4). For each item, the mean score and standard

deviation were calculated across all respondents to evaluate the consistently stressful situations. This instrument was piloted for reliability, and domain experts validated content to ensure contextual relevance.

The last section D, a Brief COPE inventory for coping mechanisms by Carver, C. S. (1997). The tool consists of 28 questions, two for each of the 14 coping strategies. The 14 subscales measure a range of coping mechanisms, including: Problem-Focused Coping (questions 2, 7, 10, 12, 14, 17, 23, 25). Characterized by the facets of active coping, use of informational support, planning, and positive reframing. Emotion-Focused Coping (Items 5, 9, 13, 15, 18, 20, 21, 22, 24, 26, 27, 28). Characterized by the facets of venting, use of emotional support, humor, acceptance, self-blame, and religion. Avoidant Coping (questions 1, 3, 4, 6, 8, 11, 16, 19). Characterized by the facets of self-distraction, denial, substance use, and behavioral disengagement. Each of three coping strategies was assessed using a subset of items from the Brief-COPE inventory, and rated on -4-point Likert scale. Combine scores were calculated by averaging item responses within each coping domain. The mean and standard deviation were used to summarize responses, although Likert data are ordinal.

3.8 Data Collection Process

Data collection took place over a month, from April to May 2022. After obtaining approval from the ethical boards (Kenyatta University's ERC, NACOSTI, and KNH/UoN ERC) and permission from hospital management, a meeting was scheduled with the respective CCU managers to explain the study's purpose and request access to the CCU nurses. Self-administered questionnaires were distributed during each shift to

available nurses. The respondents received a consent form attached to the questionnaire after the researcher introduced the study and identified the participants. They were asked to sign the consent form if they agreed to participate. Completed questionnaires were collected at the end of each shift, once participants finished them at their convenience.

3.9 Data Management

All questionnaires collected were secured in a locked cabinet. Confidentiality and privacy were ensured to prevent information from being traced to the respondents. The data collected were entered into Microsoft Excel. Data were cleaned, coded, and exported into STATA software, where data analysis was done.

3.10 Data Analysis

A descriptive analysis using STATA software was performed to examine socio-demographics and identify stress causes among nurses working in critical care units. The analysis showed different levels of the most common stressors among critical care nurses, influenced by various work-related and personal factors. Data were collected using a Likert scale and summarized with frequencies, proportions, and measures of central tendency (Mean ± SD), and median and mode were used. Due to the ordinal nature of coping strategy scales and the possible non-normal distribution of stress levels, non-parametric statistical methods were deemed suitable. Spearman's rank-order correlation was used to explore the relationship between coping strategies and perceived stress because it effectively manages ranked data without assuming normality. To evaluate the associations between coping strategies and socio-demographic factors, the

Wilcoxon rank-sum test (for two-group comparisons) and Kruskal-Wallis test (for multiple group comparisons) were applied. These tests were selected for their validity in handling data with unequal variances and non-normal distributions, ensuring accurate interpretation of the underlying patterns.

3.11 Ethical considerations

Ethical approval was obtained from Kenyatta University's ERC (PKU/2405/11539), NACOSTI (NACOSTI/P/22/15428), and KNH/UoN ERC (P862/11/2021). The researcher also received authorization from KNH's Research and Programs Department, the Head of Anesthesia and Specialized Units, and the respective unit managers.

Informed consent was obtained from all participants. COVID-19 protocols were strictly adhered to, including hand sanitization before and after distributing the questionnaire and wearing face masks. Only one nurse was approached at a time.

CHAPTER FOUR: RESULTS

4.0 Introduction

The chapter highlights and analyzes critical findings based on the research objectives. In this section, the focus is on the return rate of the questionnaire, the validity and reliability of the pretest study, and more details on specific objective findings. One hundred forty-nine questionnaires were issued, and 148 were answered and returned to the researcher. This chapter presented the study's quantitative findings on stress level, work-related stressors, coping strategies, and the correlation of stress level and coping mechanisms. Also, social demographic characteristics and coping mechanisms among critical care nurses. Data were analyzed using STATA software employing descriptive statistics, which were presented as means and standard deviation for continuous variables, as frequencies and percentages in tables for categorical variables, and as pie charts. For non-parametric tests—Spearman's rank-order correlation, Wilcoxon rank-sum, and Kruskal-Wallis were used. Results obtained were organized objectively and supported by tables and figures formatted according to APA 7th edition guidelines.

4.1 Questionnaire Return Rate (n=148)

Table 2: Questionnaire Return Rate

Response	**Frequency**	**Percentage (%)**
Filled in questionnaires	148	99.3%
Unfilled questionnaires	1.0	0.7%
Total	**149**	**100%**

Source: Research Findings (2022)

The response rate was 99.3%, as shown in Table 2.

4.2 Socio-demographic Characteristics of the Respondents (n=148)

Table 3: Sociodemographic Characteristics of The Respondents

Characteristic	Category	Frequency	Percent (%)
Gender	Female	103	69.6
	Male	45	30.4
Age	<30 years	23	15.5
	30-40years	76	51.4
	Above 40 years	49	33.1
Marital Status	Single	28	18.9
	Married	116	78.4
	Divorced	3	2.0
	Widow/widower	1	0.7
Qualification	Diploma	86	58.1
	Bachelors	58	39.2
	Masters	4	2.7
Training in CCU	Yes	130	87.8
	No	18	12.2
Type of Training	Short courses	11	8.5
	Higher Diploma	115	88.5
	Masters	4	3
Duration in CCU	0-5 years	25	16.9
	6-10 years	48	32.4
	Above 10 years	75	50.7
Role in the ward	Unit In-charge	7	4.7
	Clinical Nurse	141	95.3

Table 3 illustrates that out of 148 CCU nurses who participated and completed the questionnaire, 103 (69.6%) were females. About half of the nurses, 76 (51.4%), were aged 30 -40, and 116 (78.4%) were married. The majority (n=86, 58.1%) of the nurses working in the CCUs were diploma holders, and the majority, 130 (87.8%), had or were undergoing training in critical care. 115 (88.5%) of these nurses advanced their training to higher diplomas in critical care. About half of the nurses, 75 (50.7%), had over ten years of experience in the critical care unit. There were 7 (4.7%) units in charge interviewed.

4.3 Stress levels of the Respondents (n=148)

The table used to show the frequency and mean of how nurses were stressed in the last month before data collection; the scores were based on 5 5-point Likert scale. The more the frequency of being stressed, the higher the stress levels

Table 4: Frequency and Mean Rating of Stress Levels Among CCU Nurses

Stressors Levels	**Never**	**Rarely**	**Sometimes**	**Fairly Often**	**Very Often**	**Overall Mean (Sd)**
1.In the last month, how often have you been upset because of something that happened unexpectedly?	7(4.7)	9(6.1)	71(48)	45(30.4)	16(10.8)	
2. How often have you felt you could not control the crucial things in your life in the last month?	22(14.8)	22(14.8)	59(40)	36(24.3)	9(6.1)	
3. How often have you felt nervous and stressed in the last month?	3(2.0)	10(6.7)	68(46)	45(30.4)	22(14.9)	
4. In the last month, how often have you felt confident about your ability to handle your problems?	2(1.4)	7(4.7)	73(49.3)	57(38.5)	6(4.1)	19.1±4.3
5. How often have you felt that things were going your way in the last month?	5(3.4)	7(4.7)	73(49.3)	57(38.5)	6(4.1)	
6. In the last month, how often have you found that you could not cope with everything you had to do?	14(9.5)	19(12.8)	69(46.6)	34(23)	12(8.1)	
7. In the last month, how often have you been able to control irritations in your life?	3(2.0)	8(5.4)	49(33.1)	64(43.2)	24(16.2)	
8. how often have you felt that you were on top of things in the last month?	6(4.1)	18(12.2)	64(43.2)	48(32.4)	12(8.1)	
9. how often have you been angered due to things outside your control in the last month?	6(4.1)	15(10.2)	81(54.7)	27(18.2)	19(12.8)	
10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?	13(8.8)	21(14.2)	74(50)	27(18.2)	13(8.8)	

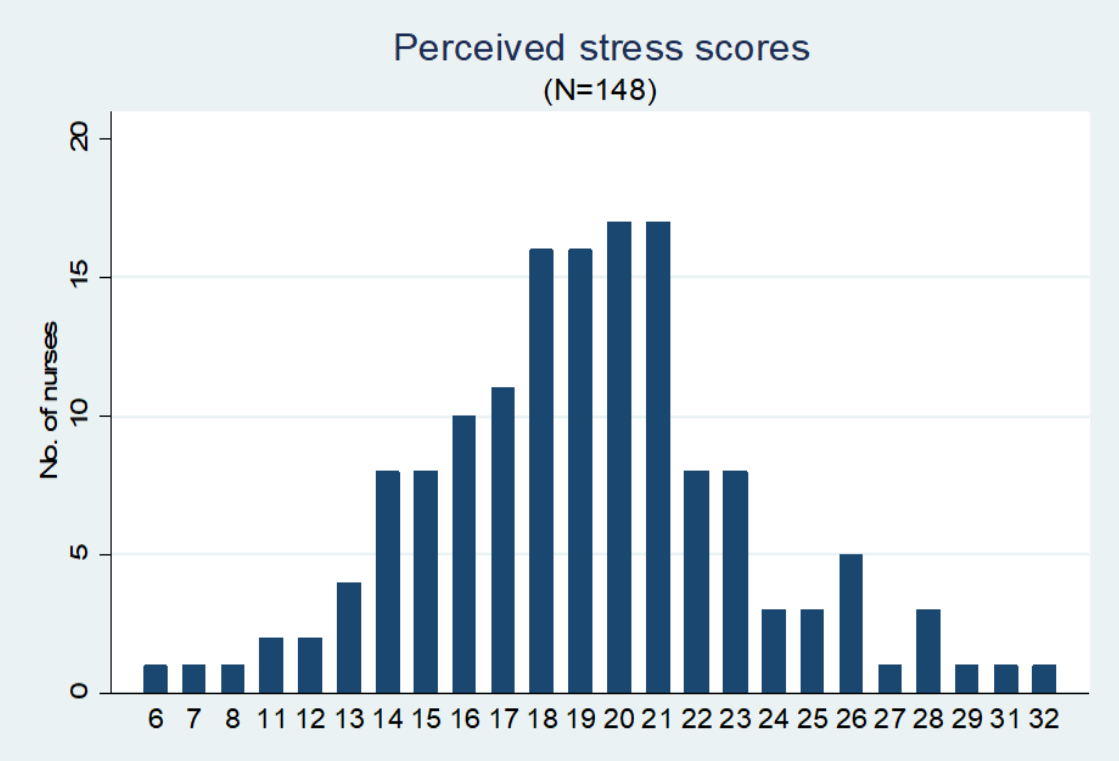

Figure 2: Score of Stress Level Among CCU Nurses

The PSS scores were obtained by summing all the items for each respondent. The highest aggregate scores were 20 and 21 among 23% of the nurses. The overall mean score was 19.1±4.3 with a minimum score of 6 and a maximum score of 32, as shown in figure 7.

The aggregate scores were further categorized into levels (0-13 Low stress), (14-26 moderate stress), and (27-40 high stress) (Cohen & Williamson, 1988). The proportion of nurses whose levels of stress were established as low-stress levels was 11 (7.4%), while 130 (87.8%) had moderate stress levels and 7 (4.8%) had high-stress levels. As summarized in Figure 2

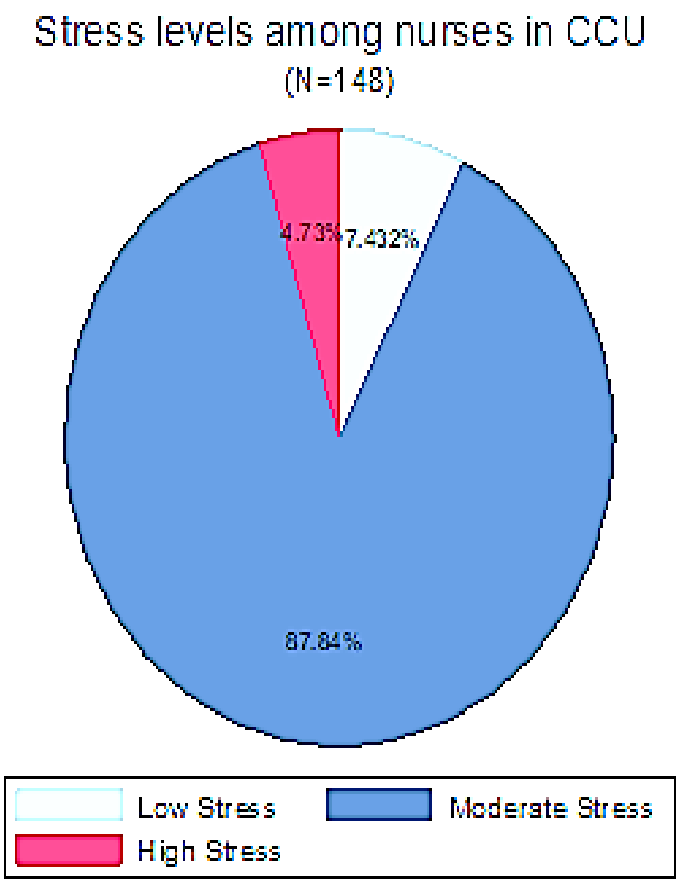

Figure 3: Pie chart of stress levels among nurses in CCU(n=148)

4.4 Stress Coping Strategies of the Respondents (n=148)

4.4.1 Problem-focused approach (n=148)

4.5 Common sources of stressors among nurses working in CCU (n=148)

This section included a 16-item questionnaire, with two parts: the 11 work-related questions and 5 personal-related questions. The data was collected using five-point Likert-scale responses (from “Never” to “Always”) and were summarized through frequencies, proportions, and measures of central tendency (mean ± standard deviation), offering insight into the comm on causes of stressors

4.5.1 Work-related stressors (n=148)

Table 5: Frequency and Mean Rating Work-Related Stressors Among CCU Nurses

	Work-related sou	Never	Rarely	Sometimes	Often	Always	Mean(SD)	Overall Mean
1.	I usually feel stressed with minimal space to work comfortably, freely, and safely.	10(6.8)	29(19.6)	63(42.6)	24(16.2)	22(14.8)	2.13±1.1	
2.	I usually feel stressed by excessive noise from alarms, monitor machines, and other equipment.	24(16.2)	43(29)	37(25)	30(20.3)	14(9.5)	1.78±1.22	
3.	I usually feel stressed due to insufficient staff during the work shift.	2(1.3)	15(10.1)	31(21)	31(21)	69(46.6)	3.01±1.1	**2.34±0.36**
4.	I usually feel stressed due to poor communication, coordination, and delays between departments.	6(4)	23(15.5)	52(35.1)	35(23.7)	32(21.6)	2.43±1.11	
5.	I usually feel stressed when new staff or colleagues lack sufficient training or knowledge to do their jobs efficiently.	17(11.5)	36(24.3)	52(35.1)	27(18.3)	16(10.8)	1.93±1.15	
6.	I usually feel stressed due to role conflict or ethical dilemmas in the hospital.	8(5.4)	30(20.3)	51(34.5)	41(27.7)	18(12.1)	2.21±1.07	
7.	I usually feel stressed due to management's lack of social support.	7(4.7)	27(18.2)	43(29.1)	38(25.7)	33(22.3)	2.43±1.16	
8.	I usually feel stressed due to the lack of resources/insufficient resources.	3(2)	12(14.9)	37(35)	42(28.4)	44(29.7)	2.69±1.11	
9.	I usually feel stressed when providing futile care in CCU.	10(6.8)	29(19.6)	42(28.3)	37(25)	30(20.3)	2.32±1.19	
10.	I usually feel stressed while caring for a patient with multiple traumas or illnesses.	22(14.8)	31(21)	44(29.7)	22(14.8)	29(19.6)	2.03±1.32	
11.	I usually feel stressed due to the frequent deaths in the unit.	6(4)	17(11.5)	34(23)	38(25.7)	53(35.8)	2.78±1.17	

Work-related stressors were the primary sources of stress among nurses working in CCU, with an overall mean of 2.34±0.36. Nurses (n=69, 46.6%) reported that lack of sufficient staff during the work shift was the primary source of work-related stress, recording the highest mean score (Mean=3.01±1.1), followed closely by frequent deaths at the unit (Mean-=2.78±1.17), which resonates with the emotional toll of critical care nursing. Conversely, “Excessive noise from equipment” had the lowest mean score (1.78 ± 1.22), suggesting it is relatively less distressing than other factors, though still present.

4.5.2 Personal Sources of stressors (n=148)

Table 6: Frequency and Mean Rating Personal Sources of Stressors Among CCU Nurses

Personal sources of stressors	Never	Rarely	Sometimes	Often	Always	Mean (SD)	Overall Mean
12. I usually feel stressed when faced with a new device/intervention with little knowledge.	13(8.8)	38(25.7)	52(35.1)	30(20.3)	15(10.1)	1.97±1.1	
13. I usually feel stressed due to a lack of knowledge when dealing with an emergency.	20(13.5)	47(31.8)	43(29)	28(18.9)	10(6.8)	1.74±1.12	**1.18±0.16**
14. I usually feel stressed due to interpersonal conflict between staff members and me.	22(14.8)	46(31.1)	50(33.8)	20(13.5)	10(6.8)	1.66±1.09	
15. Due to the abiding nature of tasks, I usually feel stressed because I have insufficient time for social contact at work.	16(10.8)	41(27.7)	45(30.4)	30(20.3)	16(10.8)	1.93±1.16	
16. I usually feel stressed due to a conflict of loyalties between my needs/family demands and organizational demands.	12(8.1)	35(23.7)	48(32.4)	30(20.3)	23(15.5)	2.11±1.17	

Personal stressors were the least common source of stress, with an overall mean of 1.18±0.16. Nurses reported that they sometimes felt stressed (n=52, 35.1%, Mean=1.97±1.1) when using new devices or performing new interventions, on which they possessed little knowledge, and (n=50, 33.8%, Mean=1.66±1.09) sometimes felt stressed due to interpersonal conflicts with staff members. Table 5 summarizes the findings.

4.5.3 Other causes of stress among nurses working in CCU (n=29)

Table 7: Frequency Rating of Other Causes of Stress Among CCU Nurses

	Frequency	**Percent %**
High cost of living	10	6.8%
Poor transportation mechanism from management to the staff	3	1.4%
Poor salaries	1	0.7%
Staff shortage	8	5.4%
Poor system(equipment failure, poor skill, inadequate resources, and poor referral system	7	4.7%
Total	**29**	**19.0%**

In addition, other causes of stress reported included the high cost of living 10(6.8%), poor salaries 1(0.7%), poor transportation mechanism from management to the staff 3(1.4%), staff shortage 8(5.4%), and poor systems7(4.7%) which included equipment failure, poor skills, inadequate resources and poor referral system.

Table 8: Frequency and Mean of Problem-Focused Approach Findings

Brief COPE questions	Coping strategy	I haven't been doing this at all	I've been doing this a little bit	I've been doing this a little bit more	I've been doing this a lot	Mean (SD)
I've been concentrating my efforts on doing something about the situation I'm in.	Active coping	10(6.8)	48(32.4)	55(37.2)	35(23.6)	5.59(1.55)
I've been taking action to try to make the situation better.		14(9.4)	42(28.4)	50(33.8)	42(28.4)	
I've been getting help and advice from other people.	Use of informational support	30(20.3)	55(37.2)	35(23.6)	28(18.9)	4.8(1.74)
I've been trying to get advice or help from others about what to do.		33(22.3)	50(33.8)	39(26.3)	26(17.6)	
I've been trying to see it in a different light to make it seem more positive.	Positive reframing	23(15.5)	47(31.8)	41(27.7)	37(25)	5.46(1.66)
I've been looking for something good in what is happening.		12(8.2)	43(29)	50(33.8)	43(29)	
I've been trying to devise a strategy for what to do.	Planning	15(10.1)	37(35)	53(35.9)	43(29)	5.55(1.62)
I've been thinking hard about what steps to take.		16(10.8)	50(33.8)	42(23.4)	40(27)	
Overall Mean (SD)						**5.35(1.27)**

Table 8 displays the mean scores and standard deviations for the most frequently used problem-focused coping strategies among nurses working in critical care units. The scores are based on a Likert scale ranging from 1(I haven't been doing this at all), 4 (I've been doing this a lot). The data indicate that nurses predominantly employed active coping (M = 5.59, SD = 1.55), followed closely by planning (M = 5.55, SD = 1.62) and positive reframing (M = 5.46, SD = 1.66). The least used method was the use of informational support (M = 4.8, SD = 1.74)

4.5.4 Emotionally focused approach (n=148)

Table 9: *Frequency and Mean Rating of Emotional-Focused Approach Findings*

Brief COPE questions	Coping strategy	I haven't been doing this at all	I've been doing this a little bit	I've been doing this a little bit more	I've been doing this a lot	Mean (SD)
I've been getting emotional support from others.	Emotional support	34(23)	52(35.1)	38(25.7)	24(16.2)	4.79(1.63)
I've been getting comfort and understanding from someone.		24(16.2)	62(41.9)	35(23.7)	27(18.2)	
I've been saying things to let my unpleasant feelings escape.	Venting	53(35.9)	50(33.8)	32(21.6)	13(8.7)	4.36(1.53)
I've been expressing my negative feelings.		37(25)	49(33.1)	38(25.7)	24(16.2)	
I've been making jokes about it.	Humor	55(37.2)	49(33.1)	29(19.6)	15(10.1)	3.95(1.69)
I've been making fun of the situation.		63(42.5)	47(31.8)	24(16.2)	14(9.5)	
I've been accepting the reality of the fact that it has happened.	Acceptance	14(9.5)	43(29)	46(31.1)	45(30.4)	5.36(1.63)
I've been learning to live with it.		21(14.2)	54(36.5)	45(30.4)	28(18.9)	
I've been trying to find comfort in my religion or spiritual beliefs.	Religion	27(18.2)	42(28.4)	40(27)	39(26.4)	5.47(1.89)
I've been praying or meditating.		22(14.8)	31(20.9)	42(28.4)	53(35.9)	
I've been criticizing myself.	Self-blame	73(49.3)	47(31.8)	19(12.8)	9(6.1)	3.59(1.56)
I've been blaming myself for things that happened.		66(44.5)	51(34.5)	21(14.2)	10(6.8)	
		Mean (SD)			**Overall**	**4.59(1.07)**

The emotion-focused approach is characterized by emotional support, venting, humor, acceptance, self-blame, and religion. The overall mean score for emotion-focused coping strategies among nurses working in critical care units was M = 4.59, SD = 1.07. Among these strategies, the most frequently used were religion (M = 5.47, SD = 1.80), acceptance (M = 5.36, SD = 1.63), emotional support (M = 4.79, SD = 1.63), and venting (M = 4.36, SD = 1.53). In contrast, self-blame (M = 3.59, SD = 1.50) and humor (M = 3.95, SD = 1.69) were among the least utilized emotion-focused coping strategies.

4.5.5 Avoidant coping approach (n=148)

Table 10: Frequency and Mean of Avoidant Coping Approach Findings

Brief COPE questions	Coping strategy	I haven't been doing this at all	I've been doing this a little bit	I've been doing this a little bit more	I've been doing this a lot	Mean (SD)
I've been turning to work or other activities to take my mind off things.	Self-distraction	35(23.7)	56(37.8)	24(16.2)	33(22.3)	4.91(1.76)
I've been doing something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping, or shopping.		31(20.9)	42(28.4)	40(27)	35(23.7)	
I've been saying to myself, 'This isn't real.'	Denial	63(42.5)	54(36.5)	21(14.2)	10(6.8)	3.64(1.51)
I've been refusing to believe that it has happened.		68(46)	51(34.5)	21(14.2)	8(5.4)	
I've been using alcohol or other drugs to make myself feel better.	Substance use	120(81.1)	17(11.5)	8(5.4)	3(2)	2.51(1.10)
I've been using drugs to help me get through it.		124(83.8)	15(10.1)	8(5.4)	1(0.7)	
I've been giving up trying to deal with it.	Behavioral disengagement	68(46)	47(31.7)	25(16.9)	8(5.4)	3.38(1.40)
I've been giving up the attempt to cope.		92(62.1)	34(23)	17(11.5)	5(3.4)	
Overall Mean (SD)						**3.61(0.93)**

Facets of self-distraction, denial, behavioral disengagement, and substance use characterize the avoidant coping approach. This was the least used coping approach among nurses working in CCU, with an overall mean score of M = 3.61, SD = 0.93. Among these strategies, self-distraction was the most frequently used (M = 4.91, SD = 1.76), followed by denial (M = 3.61, SD = 1.34; not shown above but inferred from your earlier mention). In contrast, substance use was the least utilized avoidant strategy (M = 2.51, SD = 1.10).

Table 11: Relationship Between Stress Levels and Coping Strategies of the Respondents

Coping strategies	**Spearman's correlation**	**P value**
Active coping	0.0655	0.422
Use of information support	0.0329	0.692
Positive reframing	-0.0017	0.984
Planning	0.0151	0.865
Emotional support	0.0704	0.395
Venting	0.1487	0.073
Humor	0.1143	0.167
Acceptance	0.0522	0.529
Religion	0.1557	0.059
Self-blame	**0.2848**	**0.001**
Self-distraction	**0.2840**	**0.005**
Denial	**0.2267**	**0.005**
Substance use	-0.0138	0.868
Behavior disengagement	**0.3600**	**0.001**

Spearman's correlation was used to determine the strength and direction of the relationship between stress levels and the coping mechanisms the CCU nurses used. Spearman's correlation rank was chosen since the data do not follow a linear relationship.

The Spearman's correlation analysis showed that most problem-focused and emotion-focused coping strategies (active coping, planning, reframing, humor, acceptance, and religion) were not significantly linked to stress levels. Since the $p > 0.05$, the null hypothesis was not rejected, indicating that there is no statistically significant difference between problem-focused/emotional coping strategies and stress levels. In contrast, avoidant coping strategies such as self-blame ($r = 0.285$, $p = 0.001$), self-distraction ($r = 0.284$, $p = 0.005$), denial ($r = 0.227$, $p = 0.005$), and behavioral disengagement ($r = 0.360$, $p = 0.001$) were significantly positively correlated with stress levels, suggesting that higher stress is linked to greater use of these strategies. Therefore, the null hypothesis that there is no relationship between coping mechanisms and stress levels was rejected.

Higher stress levels are significantly associated with maladaptive coping strategies (self-blame, denial, distraction, disengagement).

Overall, the findings indicate that while adaptive strategies do not appear to influence stress levels in this sample, reliance on maladaptive coping strategies is associated with higher stress.

4.6 Relationship between coping strategies and sociodemographic characteristics of the respondents (n=148)

We used the Kruskal-Wallis test because our data is not normally distributed. It's a Likert scale. The Wilcoxon test is a non-parametric test used to compare two independent groups, and it works if the data is skewed. The Post hoc test was used to check whether there was any difference in the groups that was significant, i.e, level of education and training.

4.6.1 Relationship between coping strategies and gender of the respondents

Table 12: Relationship between coping strategies and gender

Coping strategy	Gender		Wilcoxon rank test	
	Males Median (IQR)	Females Median (IQR)	Z-statistic	P value
Active coping	6(2)	2(2)	0.645	0.519
Use of information support	5(3)	5(2)	0.389	0.697
Positive reframing	5(2)	6(3)	1.91	0.056
Planning	6(3)	6(3)	-0.208	0.835
Emotional support	4(3)	5(2)	0.764	0.455
Venting	4(2)	4(3)	1.549	0.121
Humor	4(2)	4(3)	-0.495	0.620
Acceptance	5(2)	6(3)	0.675	0.498
Religion	5(3)	6(3)	1.094	0.274
Self-blame	3(3)	3(3)	-0.266	0.789
Self-distraction	5(2)	4(3)	0.878	0.397
Denial	4(3)	3(2)	0.878	0.397
Substance use	2(0)	2(1)	-1.788	0.075
Behavior disengagement	3(2)	3(2)	0.221	0.825

The results did not show any significant relationship between gender and the coping strategies employed, as summarized in the table, as summarized in the table above; hence null hypothesis was not rejected, and the conclusion was made that there is no correlation between social-demography and coping mechanism

4.6.2 Relationship between Coping strategy and training in critical care nursing (n=148)

Table 13: Relationship between coping strategies and training in critical care

Coping strategy	Training		Wilcoxon rank test	
	No Median (IQR)	**Yes Median (IQR)**	**Z-statistic**	**P value**
Active coping	5.5(1)	6(3)	-0.296	0.767
Use of information support	5(3)	5(2)	-0.971	0.332
Positive reframing	5.5(3)	6(3)	-0.441	0.659
Planning	5.5(3)	6(3)	-0.212	0.832
Emotional support	5(2)	5(2)	0.189	0.850
Venting	4(2)	4(3)	**-1.986**	**0.047**
Humor	3(2)	4(3)	**-2.047**	**0.040**
Acceptance	6(2)	5(2)	1.260	0.207
Religion	7(2)	5(3)	**2.092**	**0.036**
Self-blame	3.5(3)	3(3)	0.221	0.825
Self-distraction	5(2)	5(3)	0.663	0.507
Denial	2.5(2)	4(3)	-1.502	0.133
Substance use	2(0)	2(1)	-1.179	0.238
Behavior disengagement	3.5(2)	3(2)	0.390	0.696

The Wilcoxon rank test revealed significant differences in coping strategy use between nurses who had received CCU training and those who had not. Nurses trained in CCU reported relying more on venting ($z = -1.986$, $p = .047$) and Humor ($z = -2.047$, $p = .040$) as coping strategies. Conversely, nurses without CCU training reported greater use of Religion as a coping strategy ($z = 2.092$, $p = .036$). However, after conducting post-hoc pairwise comparisons with Bonferroni correction, the findings were not the same. Therefore, the null hypothesis was rejected, indicating a correlation between CCU training and the use of venting, Humor, and Religion as coping strategies.

4.6.3 Relationship between Coping Strategies and Nurses' Role in CCU (n=148)

Table 14: Relationship between Coping strategy and Nurse's role in CCU

Coping strategy	Role in CCU		Wilcoxon rank test	
	Unit in-charge Median (IQR)	Clinical nurse Median (IQR)	Z-statistic	P value
Active coping	5(1)	6(2)	-0.994	0.320
Use of information support	6(2)	5(3)	1.870	0.062
Positive reframing	6(2)	6(3)	0.615	0.583
Planning	6(4)	6(3)	0.467	0.624
Emotional support	4(3)	5(2)	-0.037	0.970
Venting	5(2)	4(2)	0.709	0.478
Humor	5(2)	4(3)	0.98	0.327
Acceptance	6(2)	5(2)	1.711	0.077
Religion	6(4)	6(3)	0.476	0.634
Self-blame	3(4)	3(3)	-0.061	0.951
Self-distraction	5(3)	5(3)	-0.293	0.769
Denial	4(3)	4(2)	0.605	0.545
Substance use	2(0)	2(0)	-0.479	0.631
Behavior disengagement	3(2)	3(2)	-0.628	0.529

The results did not show any significant relationship between the nurse's role in CCU and the coping strategy employed, as summarized in the table above; hence null hypothesis was not rejected, and the conclusion was made that there is no correlation between social-demography and coping mechanism.

4.6.4 Relationship between Coping strategy and marital status (n=148)

Table 15: Relationship between Coping and Marital Status

Coping strategy	**Marital status**		**Wilcoxon rank test**	
	Single Median (IQR)	**Married Median (IQR)**	**Z-statistic**	**P value**
Active coping	6(2)	6(2)	0.026	0.979
Use of information support	5(1)	5(3)	-0.052	0.658
Positive reframing	5(2)	6(3)	-0815	0.415
Planning	6(3)	6(3)	0.014	0.988
Emotional support	4.5(2)	5(2)	0.169	0.866
Venting	4(2.5)	4(2.5)	-0.047	0.962
Humor	4(3)	4(3)	-1.013	0.311
Acceptance	5(2)	6(3)	-0.868	0.385
Religion	6(2)	5.5(3)	1.284	0.199
Self-blame	3(2.5)	3(3)	0.005	0.996
Self-distraction	5(3)	5(2.5)	-0.571	0.568
Denial	5(3)	4(3)	-0.626	0.531
Substance use	2(0.5)	2(0)	0.078	0.937
Behavior disengagement	3(2)	3(2.5)	-1.016	0.369

The results did not show any significant relationship between marital status and the coping strategy employed, as summarized in Table 15. Hence null hypothesis was not rejected, and the conclusion was made that there is no correlation between social-demography and coping mechanism

4.6.5 Relationship between Coping strategy and years of experience (n=148)

Table 16: Relationship between Coping and years of experience

Coping strategy	Years of Experience		Wilcoxon rank test	
	≤10 years Median(IQR)	>10 years Median(IQR)	Z-statistic	P value
Active coping	6(2)	6(1)	0.756	0.449
Use of information support	5(2)	5(3)	1.026	0.305
Positive reframing	5(2)	6(3)	-0.556	0.578
Planning	6(2)	6(3)	1.032	0.302
Emotional support	5(2)	4(1)	1.476	0.139
Venting	4(3)	4(2)	0.745	0.456
Humor	4(2)	4(3)	1.155	0.247
Acceptance	5(2)	6(2)	0.240	0.810
Religion	5(3)	6(3)	-0.709	0.478
Self-blame	3(3)	3(3)	0.498	0.618
Self-distraction	5(3)	5(3)	-0.357	0.720
Denial	4(3)	4(2)	0.488	0.625
Substance use	2(1)	2(0)	0.827	0.408
Behavior disengagement	3(3)	3(2)	1.641	0.101

The results did not show any significant relationship between years of experience and the coping strategy employed, as summarized in the table above; hence null hypothesis was not rejected, and the conclusion was made that there is no correlation between social-demography and coping mechanism.

4.6.6 Relationship between Coping strategy and level of education (n=148)

Table 17:Relationship between Coping and level of education

Coping strategy	Level of education			Kruskal-Wallis test	
	Diploma Median (IQR)	**Bachelor's Median (IQR)**	**Masters Median (IQR)**	**Chi-square statistic**	**P value**
Active coping	5.5(3)	6(2)	5(5)	2.022	0.363
Use of information support	5(3)	4(2)	6.5(1.5)	**6.527**	**0.038**
Positive reframing	6(3)	5(3)	7(3)	4.717	0.094
Planning	6(3)	5(2)	7.5(2.5)	1.868	0.393
Emotional support	5(2)	4(1)	4.5(2.5)	3.323	0.189
Venting	4(3)	4(2)	6(1)	5.832	0.054
Humor	4(3)	4(2)	2.5(2)	1.456	0.482
Acceptance	6(3)	5(2)	5(2)	**8.874**	**0.011**
Religion	5(3)	6(3)	7.5(1.5)	3.025	0.220
Self-blame	3(2)	4(3)	4(4)	3.420	0.180
Self-distraction	5(2)	5(4)	5.5(3)	0.369	0.831
Denial	4(3)	4(2)	3.5(3)	0.137	0.933
Substance use	2(0)	2(1)	2(0)	1.946	0.377
Behavior disengagement	3(2)	4(3)	3(2)	**6.136**	**0.046**

The Kruskal–Wallis test showed a significant difference in the use of information support scores across education levels ($\chi^2 = 6.527$, $p = 0.038$). Post-hoc pairwise comparisons with Bonferroni correction showed that Master's students reported significantly higher scores than Diploma holders ($p = 0.03$), while other comparisons were not significant. Acceptance scores were also significant across the education levels ($\chi^2 = 8.874$, $p = 0.011$). Post-hoc pairwise comparisons with Bonferroni correction

showed that Master's students reported significantly higher scores than Diploma holders ($p = 0.03$), while other comparisons were not significant. Behavior disengagement scores were also significant across the education levels ($\chi^2 = 6.136$, $p = 0.046$). Post-hoc pairwise comparisons with Bonferroni correction did not show any significant comparisons across the levels of education.

CHAPTER FIVE: DISCUSSION, SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

5.0 Introduction

This section summarizes the study findings, conclusions, and recommendations. At the end of the chapter, suggestions for further research are also made.

5.1 Discussion of the Major Findings

5.1.1 Causes of Stress among Nurses in CCU

The findings of this study revealed that most nurses in CCU experience significantly higher levels of stress from work-related factors as compared to personal-related factors, which they face less often. This may be because of the CCU working environment they are in most of the time. The study is consistent with existing results, such as Lim et al. (2022) A study showed that work-related factors have the most substantial effects on the causes of stress, while personal factors are the least common cause of stress.

Work-related factors such as insufficient staff, frequent death in the unit, Insufficient training/knowledge, poor social support from management, and poor communication between departments were frequently reported by the nurses as the primary sources of stress among them. The findings aligned with a study done by Augustine & Akinwolere (2016), which showed that a lack of support, death and dying of patients, and a low patient-to-nurse ratio were the main sources of high stress levels. Similar to a study by Majuta (2016), the current study established that a lack of adequate knowledge significantly increases the stress level among CCU nurses. Also, unsupportive

management was strongly seen as a significant cause of stress among CCU nurses in Saudi Arabia. (Ageel & Shbeer, 2022). In contrast, a study by Asadi et al. (2022) showed that false alarms or unusual sounds made by multiple devices, like electronic equipment and monitors, are a significant source of stress for ICU nurses.

On Personal Factors, being confronted with a new technology or intervention with minimal information and interpersonal conflicts with staff members were sometimes a primary source of stress, though not significant causes. Similarly Xie et al., (2023) and Masa'Deh et al., (2016) A study showed ICU technology and equipment updates were a source of stress among nurses.

The imbalance between work-related factors and personal factors may be due to the nature of the critical care work, where most CCU patients are critically ill and need advanced intervention and connection to different types of machines and tubes that make a lot of noise. Due to this type of care, most nurses are routinely exposed to life-threatening situations, emotional trauma, and time-sensitive decision-making. Also, the emotional toll of patient suffering, death, and moral distress can compound over time, especially when institutional support is lacking. Moreover, the expectation to maintain composure and deliver high-quality care under pressure may suppress opportunities for emotional processing, further intensifying stress.

5.1.2 Stress Levels Among Nurses Working in the Critical Care Unit

The Researcher's findings indicate that critical care nurses at KNH experience moderate to high levels of stress. This may be due to work-related factors, which were the main source of stress as compared to personal or domestic concerns. These results are consistent with the studies done by Alharbi & Alshehry,(2019). This study revealed a

moderate level of stress among ICU nurses in Saudi Arabia. In contrast, a study done in Wad Medani City, Sudan, showed that most nurses in the ICU had low stress levels.(Alnaiem et al., 2022)

From theoretical transactional theory by Lazarus and Folkman, nurses may appraise work-related factors as more threatening than personal factors, leading to heightened emotional responses leading to high stress levels. This appraisal process is influenced mostly by environmental conditions such as support systems, workload, and many other factors

5.1.3 Coping Mechanisms

This research explored the coping strategies employed by the CCU nurses at KNH in response to work-related stress that they faced daily, and it was noted that, overall, the most used coping strategy by nurses in the study was problem-focused, followed by emotion-focused. The least coping strategy among nurses in the KNH CCU was Avoidant. The study's findings correlate with Muriithi et al., 2020a. A study that showed the most commonly used strategy by nurses to reduce stress is problem-focused, followed by social support and avoidance. However, a study done by Rafati et al., 2017 Revealed that Avoidance and evasion of stressful situations were the most widely utilized strategies for coping with stress among nursing students.

The findings predominantly revealed that the majority of nurses rely mostly on problem-focused focused such as Active coping, Planning, Positive reframing, and Acceptance. The least used methods were Humor, Self-blame, Denial, Behavioral disengagement, and Substance use. The result was consistent with a mixed-method study done in Taiwan, which showed that the three coping mechanisms used were

planning, Active, and acceptance. (Lee et al., 2022). Also, this finding concurs with a study by Yehia et al., (2016), that showed the least used coping strategies by nurses were substance and alcohol use, behavioral disengagement, and humor. However, existing literature revealed that exercising, self-control, and help-seeking are the most commonly used coping mechanisms among nurses in stress reduction. (Ender & Leila, 2019).

5.1.4 Relationship between Stress Level and Coping Mechanisms of the Respondents

This study examined the relationship between stress and coping mechanisms among CCU nurses at KNH and revealed that there was a significant positive correlation between the use of avoidance as a coping method and the intensity of stress. Nurses experiencing higher levels of stress were more likely to engage in avoidant coping such as self-blame, self-distraction, denial, and behavior disengagement. The study is comparable with a study conducted in India, which revealed a positive correlation between stress and Avoidant coping strategies. (Akhter, 2021).

In this study, Religion and other avoidance coping/emotional methods had a weak correlation value in our findings as a method of coping with stress and stress levels. However, a study on CCU nurses in Saudi Arabia showed that most nurses used religion and other spiritual interventions to reduce stress. This method significantly reduces stress levels and improves nurses' perception of their working environments.(Alharbi & Alshehry, 2019).

In this sense, the p-value of self-blame, denial, and behavior disengagement is less than 0.05 ($p<0.05$), hence the null hypothesis was rejected, leading to and conclusion that there is a statistically significant correlation between approach coping and stress levels.

Overall, the findings indicate that while adaptive strategies do not appear to influence stress levels in this sample, reliance on maladaptive coping strategies is associated with higher stress.

5.1.5 Association between Coping Mechanisms and Nurses' Socio-Demographic Characteristics

The study explores how social demographic factors such as age, gender, Level of education, training, years of experience, role played in the ward, and religion influence the use of frequent use of coping mechanisms among CCU nurses. The results of this study revealed how coping mechanisms are not only influenced by the stressors but also by social demographic characteristics. Level of education and being trained as critical care nurses or not being trained emerged as an important determinant of coping strategy selection. Specifically, trained nurses reported greater use of Humor and Venting, while untrained nurses relied more heavily on Religion. These findings suggest that being trained as a CCU nurse may influence the preference for certain coping mechanisms, potentially shifting nurses toward more adaptive emotional regulation strategies. Also, nurses who had a Master’s degree reported significantly higher scores in the selection of informational support and Acceptance coping mechanisms than Diploma holders, while other comparisons were not significant. The findings rely on a cross-sectional correlation study that was conducted among nurses at the University Hospital of Split, which found that higher levels of education were correlated with higher use of active

coping, planning, and emotional support as coping strategies. (Dolić et al., 2022). Also, findings concur with a study that was done in Indonesia to investigate coping strategies used, and the conclusion was made that education/experience are needed to develop better coping mechanisms. (Fathi & Simamora, 2019)

The findings revealed a significant relationship (p-value <0.05) between the coping mechanism and critical care training plus Education Level. Hence, a conclusion was made that there is a significant relationship between years of training, Education Level, and coping mechanisms, leading to rejection of the null hypothesis. While the findings are statistically significant, the p-values are marginal and should be interpreted with caution. In contrast, Rashidi et al. (2022) revealed no significant relationship between perceived stress and education level.

This study had no significant relationship between gender, marital status, years of experience, nurses' roles, and coping mechanisms. The findings concur with a study done in S.W. Ethiopia, which revealed no significant association between coping strategies and gender and marital status.(Tesfaye, 2018). However, a study done in the largest referral hospital in Brunei showed that married and male nurses commonly used coping strategies; the contributing factor could be the many roles to play after getting married. (Mohd-salleh et al., 2019).

5.2 Summary of Findings

Work-related factors were identified as significant causes of stress; among these, insufficient staff, frequent death in the unit, inadequate training, poor social support from management, and poor communication between departments were identified as the most common causes of stress. Also, most respondents had moderate stress levels.

Problem focus was the most used coping strategy by nurses. There was a significant positive correlation between self-blame, self-distraction, denial, and behavior disengagement coping strategy and the severity of stress levels. However, there was a negative correlation between drug use and positive reframing dealing with stress levels, though not significant. The findings revealed a significant relationship (p-value <0.05) between years of training, Education Level, and coping mechanisms. However, other social demographics and coping mechanisms had no statistically significant relationship.

5.3 Conclusion

Many nurses participating in this research had moderate stress levels, which means that if not addressed well, it can damage the mental health and well-being of nurses and negatively impact the quality of care. Work-related issues were noted to be the main causes of stress; this was due to insufficient staff. There was a significant positive correlation between self-blame, self-distraction, denial, and behavior disengagement coping strategies and the severity of stress levels. The researcher concluded that Avoidant coping increased stress levels among CCU nurses at KNH.

5.4 Recommendations

The hospital administration should develop programs that will enlighten nurses on the use of approach coping rather than avoidant coping.

The hospital should establish peer assistance programs within the different specialties, which encourage an inclusive and diverse environment for actively discussing any

concerns found in the clinical education process and how to address them, which must be accomplished.

The health department should improve mentoring programs to provide nurses with more information to help them achieve their personal and professional objectives. Each specialist department must establish ongoing intervention strategies that may encourage the practical application of Problem-Focused Coping mechanisms. These programs may also be included in the employee's stress management training curriculum, allowing nurses to expand their skill sets.

Further study in qualitative research is needed to understand the effect of moderate/ high stress levels and why people prefer maladaptive mechanisms over adaptive.

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APPENDICES

Appendix I: Consent Form

My name is Janet Nyambura Kamau, a master of science in Nursing (Critical Care) student at Kenyatta University. The title of my research being **Correlates of Stress and Coping Mechanisms among Nurses in the Critical Care Units, Kenyatta National Hospital.** The data of my research will increase awareness of stress among nurses. This information will help the administration or management of KNH develop measures to prevent higher levels of stress and the common causes. In the long run, nurses will be supported through those measures, and patient safety and care will improve.

Procedures to be followed

For those who agree to participate, the investigator will give them a structured questionnaire that they are required to read the statements/question and feel in as needed.

Voluntarism

You have the right to decide to participate in this study or not. If you agree to participate in this study, you will be given a questionnaire by the investigator to fill in after you have signed the consent form. The study participation is voluntary, and you have the right to withdraw from participation even if you have signed the consent form. Lack of participation or withdrawal will not affect your relationship with the researcher.

Discomforts and Risks

When you go through the questions and find discomfort in responding to some questions, please feel free to ask and if still not comfortable, feel free to skip the question. There is no anticipated risk to those who agree to participate. The answering of questionnaires may take 15–30 minutes of your free time or break time.

Benefits

If you participate in this study, you will better understand different effective coping mechanisms when faced with life challenges. Also, you will help us identify effective coping strategies which will guide the KNH administration in formulating measures for dealing with nurses' stress. These measures will ensure patients' quality care and reduce stress levels among nurses in critical care units.

Reward

There will be no compensation for being in this study.

Confidentiality

Your name will not be recorded on the questionnaire. The filled questionnaires will be kept under lock and key for safe-keeping. All information collected will be kept private and only shared with the study team.

Contact Information

If you have questions about the study, you can contact Researcher: **Janet Kamau** of Kenyatta University-**telephone number: 0710285364** email janetnkamau@gmail.com.

You can also call Supervisors Ms. Lucy Wankuru Meng'anyi, **telephone number** 0721419297, or Ms. Grace Gachuiri, **telephone number** 0722980352.

However, if you have questions about your rights as a study participant: You may contact Kenyatta University Ethical Review Committee Secretariat on chairman.kuerc@ku.ac.ke, or the Secretary/Chairperson, KNH/UoN-ERC, **Telephone Number: 2726300 Ext: 44102**, Fax: **0725272**; Email: uonknh_erc@uonbi.ac.ke

Participant's statement.

The explanation and information above regarding my participation in the study are clear to me. I have been given a chance to ask questions, and my questions have been answered to my satisfaction. My participation in this study is entirely voluntary. I understand that my name will be omitted from the questionnaire, and no one, even the researcher, can trace the information in the questionnaire back to me. Also, I understand I can leave the study at any time, and leaving will not affect my work relationship.

Participant signature …… Date_____

Investigator statement.

I, the undersigned, certify that I have explained to the volunteer in a language they understand. I have also discussed with the above participant the risks and benefits involved.

Name of the researcher..... Signature……Date…….

Appendix II: Questionnaire

TITLE: CORRELATES OF STRESS AND COPING MECHANISMS AMONG NURSES IN THE CRITICAL CARE UNITS, KENYATTA NATIONAL HOSPITAL

QUESTIONNAIRE NUMBER: _____

CRITICAL CARE UNIT: _____

SECTION A: NURSES SOCIAL DEMOGRAPHIC DATA

Instructions: Tick the appropriate answer in the box provided

1) Sex
    1. Male [ ]
    2. Female [ ]
2) What is your age group?
    1. below 30 years [ ]
    2. 30–40 [ ]
    3. above 40 years [ ]
3) Marital status
    a) Married [ ]
    b) Unmarried [ ]
    c) Divorced [ ]
    d) Widower/widow

4) Religion

   a) Catholic [ ]

   b) Protestant [ ]

   c) Muslim [ ]

   d) Others (Specify): _____

5) What is the level of your nursing qualification?

   a) Certificate [ ]

   b) Diploma [ ]

   c) Bachelor's degree [ ]

   d) Master's degree [ ]

   e) Others (Specify):

   _____

6) Have you received any training in critical care nursing?

   1. Yes [ ]
   2. No [ ]

7) If yes to question 6 above which type of training

   a) Higher Diploma in Critical Care Nursing [ ]

   b) Masters of Science in Nursing (Critical Care) [ ]

   c) Short course online course on mechanical ventilation [ ]

   d) Others (Specify)

   _____

8) For how long have you been working in CCU?

a) 0–5 years [ ]

b) 6–10 years [ ]

c) years and above [ ]

9) What is your role in the ward?

a) Team Leader [ ]

b) Unit in Charge [ ]

c) Clinical nurse [ ]

d) Student mentor [ ]

e) Any other, specify _____

SECTION B: STRESS-LEVEL ASSESSMENT TOOL

For each question, choose from the following alternatives:

0 - never 1 - almost never 2 – sometimes 3 - fairly often 4 - very often.

And tick your answer against each question in the table below how often you usually feel.

STRESSORS	**NEVER**	**ALMOST NEVER**	**SOMETIMES**	**FAIRLY OFTEN**	**VERY OFTEN**
l. In the last month, how often have you been upset because of something that happened unexpectedly**?**					
2. In the last month, how often have you felt that you could not control the crucial things in your life**?**					
3. In the last month, how often have you					

felt nervous and stressed?					
4. In the last month, how often have you felt confident about your ability to handle your problems**?**					
5. In the last month, how often have you felt that things were going your way**?**					
6. In the last month, how often have you found that you could not cope with all the things you had to do?					
7. In the last month, how often have you been able to control irritations in your life?					
8. In the last month, how often have you felt that you were on top of things?					
9. In the last month, how often have you been angered due to things outside your control?					
10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?					

SECTION C: CAUSES OF STRESS AMONG NURSES IN CCU

The questions in the table below depict situations that usually occur during the nursing care of patients. Using the five-point Likert scale of 0–4 as shown, ticking against each situation how often you usually find it stressful.

0-**never 1-rarely 2- sometimes 3-often 4-always**

COMMON STRESSOR IN NURSING	**0**	**1**	**2**	**3**	**4**
Factor A of stressor; Work-related sources					
17. I usually feel stressed with minimal space to work comfortably, freely, and safely.					
18. I usually feel stressed with excessive noise from alarms, monitor machines, and other equipment.					
19. I usually feel stressed due to the lack of sufficient staff during the work shift.					
20. I usually feel stressed due to poor communication, coordination, and delay between departments.					
21. I usually feel stressed due to lack of sufficient training/knowledge by new staff or other colleagues in doing their job efficiently.					
22. I usually feel stressed due to role conflict or ethical dilemmas in the hospital.					
23. I usually feel stressed due to the lack of social support from management.					
24. I usually feel stressed due to the lack of resources/insufficient resources.					
25. I usually feel stressed when providing futile care in CCU.					
26. I usually feel stressed while providing care to a patient with multiple trauma or illness.					
27. I usually feel stressed due to the frequent death in the unit.					
Factor B; Personal factors					

28. I usually feel stressed when faced with a new device/new intervention with little knowledge.					
29. I usually feel stressed due to the lack of insufficient knowledge when dealing with an emergency.					
30. I usually feel stressed due to interpersonal conflict between staff members and me.					
31. I usually feel stressed due to insufficient time for social contact while at work due to the abiding nature of tasks.					
32. I usually feel stressed due to a conflict of loyalties between one's needs/family demands and organizational demands.					

33. Apart from the above causes of stress, are there other factors that cause stress to you?

a) Yes [ ]

b) No [ ]

34. If yes to question 17 kindly state them:

_____

_____

_____

_____

SECTION D: BRIEF COPE INVENTORY

The questions below ask which style you have used to cope with hardship in your life. Read the statements and indicate how much you have been using each coping style by ticking the answer against each question in the table below.

1 = I haven't been doing this at all **2 = I've been doing this a little bit**
3 = I've been doing this a little bit more **4 = I've been doing this a lot**

COPING MECHANISM	1	2	3	4
1. I've been turning to work or other activities to take my mind off things.				
2. I've been concentrating my efforts on doing something about the situation I'm in.				
3. I've been saying to myself, 'This isn't real.'				
4. I've been using alcohol or other drugs to make myself feel better.				
5. I've been getting emotional support from others.				
6. I've been giving up trying to deal with it.				
7. I've been taking action to try to make the situation better.				
8. I've been refusing to believe that it has happened.				
9. I've been saying things to let my unpleasant feelings escape.				
10. I've been getting help and advice from other people.				
11. I've been using drugs to help me get through it**.**				
12. I've been trying to see it in a different light to make it seem more positive				
13. I've been criticizing myself.				
14. I've been trying to come up with a strategy about what to do.				
15. I've been getting comfort and understanding from someone**.**				
16. I've been giving up the attempt to cope.				
17. I've been looking for something good in what is happening**.**				
18. I've been making jokes about it.				
19. I've been doing something to think about it less, such as going to movies, Watching TV, reading, daydreaming, sleeping, or shopping				
20. I've been accepting the reality of the fact that it has happened.				
21. I've been expressing my negative feelings.				
22. I've been trying to find comfort in my religion or spiritual beliefs.				

23. I've been trying to get advice or help from other people about what to do.				
24. I've been learning to live with it.				
25. I've been thinking hard about what steps to take				
26. I've been blaming myself for things that happened**.**				
27. I've been praying or meditating**.**				
28. I've been making fun of the situation				

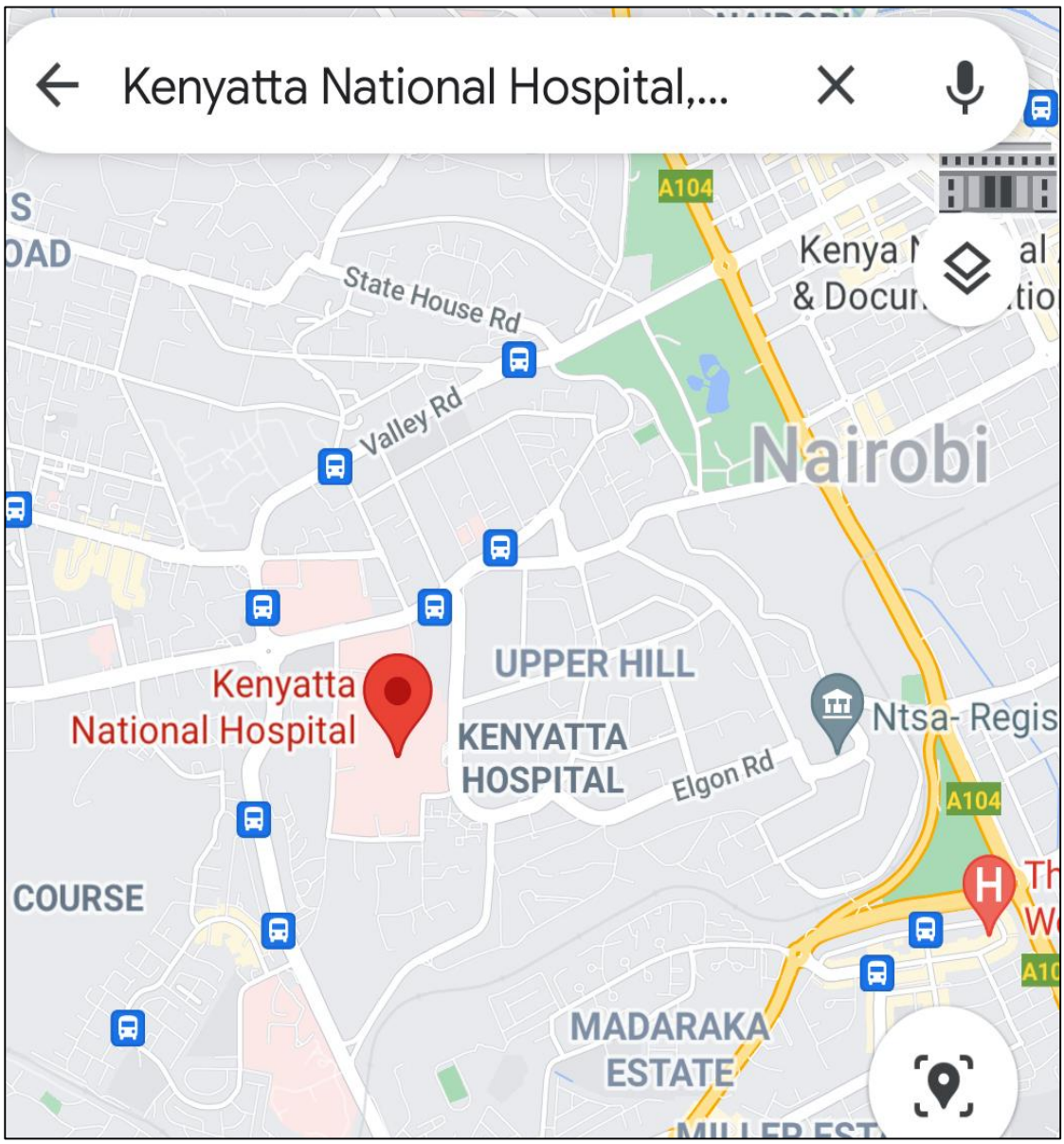
29 Have you been abusing drugs as a way of coping with stress?

a) Yes [ ]

b) No [ ]

30. If yes, to question 29, please list the drugs you have been taking to cope with stress:

Appendix III: Map of Study Area



Appendix IV: Curriculum Vitae

Personal details

Name Kamau N Janet

Nationality Kenyan

ID No 28220954

Email janetnkamau@gmail.com

Home address 572 Kitale

Cell phone no 0710285364

Language Speaking English and Kiswahili

PROFILE SUMMARY

I am a highly competent nurse who focus on providing both direct and indirect nursing characteristic through holistic care and therapeutic partnership to the patients. I have the ability to effectively communicate with clients, colleagues and subordinate staff. I am able to work independently under pressure. I also possess the ability to leads teams and ensure proficiency in all the duties they undertake. I am now seeking an opportunity to work in your organization as a nurse in any unit.

EDUCATION

- Bachelor of Science in Nursing-MOI University;2010 to 2015
- Licensed Nurse-Nursing Council of Kenya
- Certificate in Basic Life Support-Kenya Red Cross
- Certificate in Computer Studies
- Kenya Certificate of Secondary Education;2005-2008

KEY SKILLS AND COMPETENCES ACQUIRED

Accident and emergency. Competence in to handling emergency cases such as resuscitation, trauma, diabetics and hypertensive crisis, pediatric emergency cases like chocking, burn, dehydration, shock and etc.

Midwifery Ability to give focused antenatal care and postpartum care to mothers.

Identification and management of obstetric emergency, in particular I had a chance to manage postpartum hemorrhage successfully.

General wards; Provision of holistic care to both patients and their families. I take serious on their questions and with collaboration with other health care personnel without doubt of the care

Theatre nurse. Scrubbing and monitoring patients in PACU, overseeing patient needs and surgeon needs during surgery as a running nurse.

Nurse in charge. Providing professional and psychological support to patients, visitors and families. Facilitating a high standard of care to patients**.** Putting together a targeted

nursing experience that meets the needs of the patient and the hospital and carrying out any other nursing duty assigned.

Integrity and Discipline. High levels of integrity demonstrated in my ability to follow instructions from my superiors as well as display in handling medical information with confidentiality.

PROFESSIONAL EXPERIENCE

- Currently I am doing locum in Avenue hospital parkland at the same time doing my master's degree in Critical care in Kenyatta University.
- St Teresa hospital Kiambu Road ;2018 to 2019
- Locum, Kiambu Level 5 Hospital; April 2018
- Internship Kiambu Level 5 Hospital; 2017 to 2018

Duties and Responsibilities

- Nursing management in accident and emergency care
- Continuity of holistic and therapeutic partnership in patient care
- Management of mother from first stage to postnatal.
- Care of newborn in NBU
- Scrubbing, running nurses and PACU nurses during cesarian section
- Foreseeing administrative objectives and plan
- Management of patient through nursing process

Referees

1. Beth Nyokabi Mwaura
   Nurse officer Kiambu level 5 hospital
   0724987738
2. Christine Ngithi Muchungu
   Deputy matron St Teresa
   Phone no 0721487701
3. Faith Mwende
   Nurse officer one KNH
   Phone no 0728066724

Appendix V: Research Approval

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/466

7th December 2021

Janet Nyambura Kamau
Reg. No.R50/26285/2019
Dept. of Medical-Surgical Nursing and Pre-Clinical Sciences
School of Nursing
Kenyatta University

Dear Janet

RESEARCH PROPOSAL: CORRELATES OF STRESS AND COPING MECHANISMS AMONG NURSES IN THE CRITICAL CARE UNITS, KENYATTA NATIONAL HOSPITAL (P862/11/2021)

This is to inform you that KNH-UoN ERC has reviewed and approved your above research proposal. Your application approval number is **P862/11/2021.** The approval period is 7th December 2021 – 6th December 2022.

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.

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

PROF. M.L. CHINDIA
SECRETARY, KNH-UON ERC

c.c. The Dean-Faculty of Health Sciences, UoN
The Senior Director, CS, KNH
The Chairperson, KNH- UoN ERC
The Assistant Director, Health Information, KNH
The Chair, Dept. of Medical-Surgical Nursing and Pre-Clinical Sciences, Kenyatta University
Supervisors: Dr. Lucy Wankuru Meng'anyi, Dept.of Medical-Surgical Nursing and Pre-Clinical Sciences, Kenyatta University
Ms. Grace Gachuiri, Dept.of Medical-Surgical Nursing and Pre-Clinical Sciences, Kenyatta University

Appendix VI: Research Authorization

KENYATTA UNIVERSITY
CENTRE FOR RESEARCH ETHICS AND SAFETY

Fax: 8711242/8711575
Email: chairman.kuerc@ku.ac.ke

P. O. Box 43844,
Nairobi, 00100

Website: www.ku.ac.ke

Tel: 8710901/12

Our Ref: **KU/ERC/APPROVAL/VOL.1**

Date: 14th December, 2021

Janet Kamau
P.O BOX 43844-00100
Nairobi.

Dear Madam,

RE: CORRELATES OF STRESS AND COPING MECHANISMS AMONG NURSES IN THE CRITICAL CARE UNITS, KENYATTA NATIONAL HOSPITAL

This is to inform you that ***KENYATTA UNIVERSITY ETHICS REVIEW COMMITTEE*** has reviewed and approved your above research proposal. Your application approval number is ***PKU/2405/I1539.*** The approval period is ***14/12/2021 to 14/12/2022.***

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 ***KENYATTA UNIVERSITY ETHICS REVIEW COMMITTEE***
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 ***KENYATTA UNIVERSITY ETHICS REVIEW COMMITTEE*** within 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 ***KENYATTA UNIVERSITY ETHICS REVIEW COMMITTEE*** 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 ***KENYATTA UNIVERSITY ETHICS REVIEW COMMITTEE***

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.

To serve you better, researchers are kindly requested to access and complete a customer feedback form and sent it back online as you continue with research and upon completion of data collection found on the following website link; ;(https://docs.google.com/forms/d/1ytWefDwvyz5h1oz_VIn0xbxg3uGdlDzMXFWNDsMrRPQ/edit?usp=sharing

Yours sincerely

KENYATTA UNIVERSITY OFFICE OF THE CHAIRMAN ETHICS REVIEW COMMITTEE P.O BOX 43844 - 00100 NAIROBI

14 DEC 2021

Prof. Judith Kimiywe

Director: Centre for Research Ethics and Safety

Appendix VII: Research Authorization (Graduate Sc Hool)

KENYATTA UNIVERSITY
GRADUATE SCHOOL

E-mail: dean-graduate@ku.ac.ke
Website: www.ku.ac.ke

P.O. Box 43844, 00100
NAIROBI, KENYA
Tel. 020-8704150

Our Ref: R50/CE/26285/2019

DATE: 31st August, 2021

Director General,
National Commission for Science, Technology
and Innovation
P.O. Box 30623-00100
NAIROBI

Dear Sir/Madam,

RE: RESEARCH AUTHORIZATION FOR MS. KAMAU NYAMBURA JANET – REG. NO. R50/CE/26285/19

I write to introduce Ms. Kamau Nyambura Janet who is a Postgraduate Student of this University. She is registered for M.Sc. degree programme in the **Department of Medical Surgical Nursing & Pre-Clinical Science.**

Ms. Kamau intends to conduct research for a M.Sc. thesis Proposal entitled, **"Stress Coping Mechanisms among Nurses in the Critical Care Units, Kenyatta National Hospital."**

Any assistance given will be highly appreciated.

Yours faithfully,

PROF. ELISHIBA KIMANI
DEAN, GRADUATE SCHOOL

Appendix VIII: Research Approval (Graduate Sc Hool)

KENYATTA UNIVERSITY
GRADUATE SCHOOL

E-mail: dean-graduate@ku.ac.ke
Website: www.ku.ac.ke

P.O. Box 43844, 00100
NAIROBI, KENYA
Tel. 020-8704150

Internal Memo

FROM: Dean, Graduate School

DATE: 31st August, 2021

TO: **Ms. Kamau Nyambura Janet**
C/o Medical Surgical Nursing &
Pre-Clinical Science Department

REF: R50/26285/2019

SUBJECT: APPROVAL OF RESEARCH PROPOSAL

This is to inform you that Graduate School Board, at its meeting on **25th August, 2021**, approved your Research Proposal for the M.Sc. Degree entitled, **"Stress Coping Mechanisms among Nurses in the Critical Care Units, Kenyatta National Hospital."**

You may now proceed with your Data collection, subject to clearance with the Director General, National Commission for Science, Technology & Innovation and Ethics Review Committee, Kenyatta University.

As you embark on your data collection, please note that you will be required to submit to Graduate School completed Supervision Tracking and Progress Report Forms per semester. The Forms are available at the University's Website under Graduate School webpage downloads.

Thank you.

HARRIET ISABOKE
FOR: DEAN, GRADUATE SCHOOL

CC. Chairman, Medical Surgical Nursing & Pre-Clinical Science Department

Supervisors:

1. Ms. Lucy Meng'anyi
   C/o Medical Surgical Nursing & Pre-Clinical Science Dept.
   Kenyatta University

2. Mrs. Grace Gachuiri
   C/o Medical Surgical Nursing & Pre-Clinical Science Dept.
   Kenyatta University

HI/eww

Appendix VIII: Nacosti Permit

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **580842**

Date of Issue: **31/January/2022**

RESEARCH LICENSE

This is to Certify that Ms.. JANET NYAMBURA KAMAU of Kenyatta University, has been licensed to conduct research in Nairobi on the topic: CORRELATES OF STRESS AND COPING MECHANISMS AMONG NURSES IN THE CRITICAL CARE UNITS, KENYATTA NATIONAL HOSPITAL for the period ending : 31/January/2023.

License No: **NACOSTI/P/22/15428**

580842

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Verification QR Code

NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.