

**STRESS AND COPING STRATEGIES AMONG FAMILY MEMBERS OF
PATIENTS ADMITTED TO THE INTENSIVE CARE UNIT AT PRINCESS
MARINA HOSPITAL, GABORONE, BOTSWANA**

**BY
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DECLARATION

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ABSTRACT

Admission of a loved one to the Intensive Care Unit is a profoundly stressful experience for family members. The unpredictable nature of critical illness, the unfamiliar environment, and the potential for adverse outcomes contribute to significant psychological distress. Understanding the stress levels and coping mechanisms employed by family members is crucial for providing appropriate support and improving their overall well-being. This study aimed to assess the levels of stress and the coping strategies utilised by family members of patients admitted to the Intensive Care Unit at Princess Marina Hospital, Gaborone, Botswana. A descriptive cross-sectional study was conducted at the Intensive Care Unit of Princess Marina Hospital. A census sample of 58 family members of Intensive Care Unit patients was recruited. Data was collected using a structured questionnaire comprised of socio-demographic questions, the Perceived Stress Scale to measure stress levels, and the Brief Coping Orientation to Problems Experienced Inventory to assess coping strategies. Data analysis was performed using descriptive statistics to determine the prevalence of different stress levels and coping strategies. Chi-square was used to identify significant predictors of stress. The analysis was conducted at a 95% confidence interval with a significance level of 5%, using SPSS version 27. The study revealed that 79.3% (46/58) of respondents had a high perceived stress level, with a mean PSS score of 28.5 (± 7.21). The use of adaptive problem-focused coping strategies was found in 77.6% (45/58) of respondents; while 93.1% (54/58) had adaptive emotion-focused coping strategies, and 79% (46/58) had adaptive avoidant coping strategies. The results showed that only problem-focused coping ($p = 0.037$) was statistically significantly associated with stress level among respondents, indicating that these factors have an influence on whether respondents were highly stressed or not. This study highlights the critical need for Intensive Care Unit systems to prioritize family mental health through targeted coping support and systemic reforms. By integrating problem-focused strategies into culturally sensitive care frameworks, healthcare providers in Botswana and similar settings can mitigate the universal stress burden faced by ICU families, fostering resilience in high-stakes environments.

Keywords: *Intensive Care Unit, Family Stress, Coping Strategies, Botswana, Perceived Stress, Adaptive Coping.*

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LIST OF ABBREVIATIONS AND ACRONYMS

AOR:	Adjusted Odds Ratios
APA:	American Psychological Association
CCU:	Cardiac Intensive Care Unit
CI:	Confidence Interval
COPE:	Coping Orientation to Problems Experienced
COR:	Crude Odds Ratios
DSM:	Diagnostic and Statistical Manual of Mental Disorders
ICU:	Intensive Care Unit
NHRA:	National Health Research Authority
PMH:	Princess Marina Hospital
PSS-10:	Perceived Stress Scale
PTSD:	Post-Traumatic Stress Disorder
SPSS:	Statistical Package for Social Sciences
TMSC:	Transactional Model of Stress and Coping
UNZABREC:	University of Zambia Biomedical Research Ethics Committee
WHO:	World Health Organization

CHAPTER ONE

INTRODUCTION AND BACKGROUND

1.1 Introduction

This study investigated the stress and coping strategies among family members of patients in Intensive Care Units (ICUs). Focusing on the psychological and emotional challenges these family members face, the research explored the dynamics of stress induction and the efficacy of various coping mechanisms during the critical care period. The unpredictability and severity of ICU admissions place significant psychological burdens on family members, impacting their overall well-being and their ability to make crucial decisions for the patient. The chapter began by providing a background of the topic, then proceeded to present the problem, highlighting the extent and impact of stress on family members of ICU patients. The importance of addressing this issue is emphasized in the study justification section, which underscores the potential contributions of the study to the body of knowledge and the management of infectious diseases. Finally, the chapter concluded by outlining the conceptual framework, research objectives and hypothesis, and study variables.

1.2 Background

The Intensive Care Unit is a hospital-specialised unit that aims to provide comprehensive health care to critically ill patients. This unit is equipped with advanced medical devices not typically seen in general hospital wards (Society of Critical Care Medicine, 2024). Such equipment is essential for the timely and effective fulfilment of the ICU's primary mandate. However, the presence of this sophisticated machinery can create an intense and intimidating ICU environment due to its technical complexity and the continuous noise it produces, which can linger with individuals long after their encounter with the unit (Saeidi et al., 2021; Tronstad et al., 2023).

ICUs have limited bed capacity and selective admission criteria, often requiring authorization by an intensivist, which can generate uncertainty among patients' relatives (Chowdhury and Duggal, 2017). Admissions are typically unplanned critical emergencies, defined as life-threatening conditions necessitating pharmacological and mechanical support of vital organ functions to prevent imminent death (Nates et al., 2016).

Despite prompt medical attention, ICUs often record high mortality rates due to the severity of patients' conditions. This creates significant anxiety for family members, as the patient's prognosis is frequently uncertain. (Nwachukwu et al., 2023; Pathak et al., 2020; Singh et al., 2021). Common patient symptoms include unconsciousness, characterized by unresponsiveness to verbal stimuli, reduced response to painful stimuli, and the inability to perform daily activities (Newcombe et al., 2023). The general patient condition compromises immunity, which makes them prone to acquired infections, further complicating patient conditions (Rohaut et al., 2019).

Care in ICUs involves the monitoring of complex physiological parameters, such as mechanical ventilation, respiratory and hemodynamic status, renal function, CRRT, intracranial pressure, and neuromonitoring, which necessitates input from a multidisciplinary healthcare team (Olabisi et al., 2020). As a result, multiple specialists often communicate with family members, which can lead to perceptions of inconsistency in the information provided (Ige et al., 2022). Family members defined as individuals related by blood, marriage, or adoption and designated as next of kin or primary contact may struggle to comprehend or retain this information due to emotional distress, including fear and desperation (Ige et al., 2022; Olabisi et al., 2020; Opondo et al., 2020; Naef et al., 2021). The absence of direct communication with the patient, compounded by limited interaction due to the patient's critical condition, further reduces opportunities for reassurance (Newcombe et al., 2023; Rohaut et al., 2019).

Stress, defined as a state of worry or mental tension caused by a difficult situation (World Health Organization [WHO], 2023). poses significant challenges for family members of patients in the Intensive Care Unit (ICU). According to the Diagnostic and Statistical Manual of Mental Disorders (DSM-5), psychological stressors involve exposure to actual or threatened death, serious injury, or severe traumatic events, triggering symptoms that impair daily functioning and may lead to pathological conditions (American Psychological Association [APA], 2022; Boye and Malt, 2022; Lu et al., 2021). Studies report stress prevalence among ICU relatives ranging from 57% to 80% in European and American countries and 10% to 40.5% in African countries, highlighting its widespread impact (Abdul Halain et al., 2022; Gil-Juliá et al., 2021; Olabisi et al., 2020). Stress levels among these relatives can vary from mild to severe based on various factors and coping strategies (Harlan et al., 2020; Lu et al., 2021).

High stress levels can cause disorders like Post-Traumatic Stress Disorder (PTSD), anxiety, and depression, particularly among relatives of ICU patients due to intense psychological stress (Brenda-Wolles and Robin-Randall, 2020; Ntlantsana et al., 2022). This stress can hinder their ability to make medical decisions and support recovery (Vogel et al., 2023). Therefore, managing stress effectively is essential as well as raising awareness and providing psychological counselling which can help alleviate stress and reduce complications, especially PTSD (Gurbuz and Demir, 2023; Olashore et al., 2018). To address these psychological challenges and reduce the risk of disorders like PTSD, a range of coping strategies can be employed to support ICU family members effectively

The coping strategies to alleviate stress include problem-focused approaches (e.g., active coping, planning), emotion-focused strategies (e.g., acceptance, religion, humour), meaning-focused strategies (e.g., cognitive approaches to manage the situation's meaning), and social coping (e.g., seeking support from the community) (Chabili and Simuyemba, 2021; Frota et al., 2021). The effectiveness of these strategies varies based on individual circumstances and resources, underscoring the need for targeted interventions and support systems for ICU patients' family members (Algorani and Gupta, 2024; Frota et al., 2021). Integrating psychological interventions into health services can enhance coping abilities and improve access to quality mental health care (WHO, 2024).

Building on these coping strategies, family-centred care (FCC) provides a structured framework that integrates individual coping efforts into a collaborative healthcare approach, further supporting ICU families. FCC emphasizes partnership between healthcare providers, patients, and families, engaging relatives with respect, clear communication, and opportunities for participation in care decisions (Davidson et al., 2017). In ICUs, FCC involves explaining medical terminology, encouraging minor care tasks, and addressing families' emotional needs, which can reduce stress and enhance coping (Jónasdóttir et al., 2024). By fostering trust and collaboration, FCC mitigates the psychological burden on families, aligning with the need for effective interventions (Kuo et al., 2022).

At Princess Marina Hospital (PMH) in Gaborone, Botswana, nurse-led interventions, such as simplifying medical terminology, encouraging note taking, and promoting relaxation techniques, aim to reduce stress among ICU family members by improving communication and trust (Adams, 2023). Family involvement in minor care tasks fosters emotional connection and agency (Jónasdóttir et al., 2024), while limited flexible visitation policies, informed by practices in other African contexts, support family presence (Ntlantsana, 2023). These strategies align with Botswana's communal culture, which emphasizes social coping through familial and community ties. However, barriers such as a shortage of mental health professionals (Opondo et al., 2020), physical space constraints, and weakened communal networks in urban areas limit the effectiveness of these measures. The lack of research on ICU-related stress and coping at PMH further hinders the development of targeted, culturally appropriate interventions.

1.3 Statement of the Problem

The admission of a loved one to the ICU can be highly stressful for family members (Kydonaki et al., 2020; Olabisi et al., 2020). Despite the recognition of family-centred care in the ICU, there is a significant gap in understanding the psychological distress experienced by family members in Botswana and the coping strategies they use. This gap hinders effective interventions and support systems, affecting their well-being and ability to support their loved one's recovery (Kukora and Laventhal, 2024; Olashore et al., 2018).

Limited studies from Botswana focus specifically on stress levels, prevalence, or coping strategies. However, research shows that more than half of spouses of ICU patients experience PTSD symptoms (Opondo et al., 2020). Patients with severe mental illness at Botswana's psychiatric referral hospital often have histories of traumatic events, including the loss of a loved one (Molebatsi et al., 2021). The ICU, with its high morbidity and mortality rates, is inherently traumatic (Demass et al., 2023; Melaku et al., 2024). ICU mortality rates in Africa range from 32.9% to 54% (Demass et al., 2023), with PMH's rates being particularly alarming based on the unit's admissions and discharge register (Table 1.1).

Table 1.1: Admissions and Mortality of ICU patients at Princess Marina Hospital

YEAR	ADMISSIONS	NO. MORTALITY	% MORTALITY
2020	201	102	50.7%
2021	124	75	60.5%
2022	151	84	55.6%

According to the table above, the ICU admissions and mortality data from Princess Marina Hospital (PMH) between 2020 and 2022 reveal consistently high mortality rates, which likely contribute significantly to the emotional burden experienced by family members of ICU patients. In 2020, the ICU recorded 201 admissions with 102 deaths, resulting in a mortality rate of 50.7%. Although admissions decreased to 124 in 2021, the mortality rate rose to 60.5% with 75 deaths. In 2022, admissions increased to 151, but the mortality rate remained high at 55.6%, with 84 deaths.

Persistently high ICU mortality rates at PMH reflect the critical condition of patients and possible limitations in resources, contributing to heightened anxiety and helplessness among family members (Frota et al., 2021). The uncertainty surrounding outcomes, intensified by restricted visitation and limited psychosocial support, often results in prolonged psychological distress and long-term mental health consequences such as anxiety, depression, or PTSD (Davidson et al., 2017; Vogel et al., 2023; Jónasdóttir et al., 2024). In response, this study was undertaken to assess the stress levels and coping strategies of family members of ICU patients at PMH.

1.4 Justification

This study on the stress and coping strategies of family members of ICU patients addressed a critical gap in understanding the psychological and emotional challenges faced by these individuals (Adams et al., 2019). By investigating stress levels and coping strategies during a loved one's ICU admission, the research generated insights that inform targeted interventions and support systems (Ige et al., 2022; Kukora and Laventhal, 2024). The primary beneficiaries, family members of ICU patients, may gain from evidence-based interventions and support systems to help mitigate their psychological burden (Harlan et al., 2020).

Identifying effective coping strategies and their influencing factors could lead to resources and programs empowering family members to manage stress and maintain well-being during this challenging time (Frota et al., 2021; Janah and Hargiana, 2021).

Additionally, healthcare providers and policymakers could benefit from a comprehensive understanding of the needs and experiences of these family members (Kydonaki et al., 2020; Vogel et al., 2023). Since PMH has no specific policies addressing the psychological impact on family members of ICU patients, this knowledge could guide the development of family-centred care practices and policies, improving outcomes and reducing healthcare costs (Abdul Halain et al., 2022; Kukora and Laventhal, 2024).

While existing research highlights the psychological impact of having a loved one in the ICU, it is insufficient to address the lack of professional psychological support and the reliance on maladaptive coping strategies, such as avoidance or denial, that exacerbate high stress levels among family members of ICU patients at Princess Marina Hospital (PMH) in Botswana (Algorani and Gupta, 2024; Opondo et al., 2020). Studies like (Azoulay et al., 2019) found that 35% of ICU family members in France experienced PTSD symptoms, and (Pochard, 2020) reported 73% anxiety and 35% depression, but both focus on high-income settings with access to psychologists, overlooking resource-constrained contexts like PMH, where no ICU-specific mental health professionals are available (Opondo et al., 2020). These studies also fail to examine maladaptive coping strategies or their impact in African ICUs, particularly under PMH's high mortality rates (50.7–60.5%, 2020–2022) and cultural reliance on communal coping (Olabisi, 2020). This study is unique as it investigates stress and maladaptive coping among PMH ICU family members, aiming to inform targeted interventions, such as psychological counselling, to foster adaptive coping and mitigate psychological distress in this understudied setting.

1.5 Conceptual Framework: Transactional Model of Stress and Coping

This study was grounded in the Transactional Model of Stress and Coping (TMSC) developed by Lazarus and Folkman (1984), a framework for understanding stress, appraisal, and coping, particularly in healthcare settings (Biggs et al., 2019; Stahl, 2023). The TMSC defines stress as an interaction between an individual and their environment, where the individual perceives a situation as taxing or exceeding their resources (Hundah et al., 2024). For family members of ICU patients, stressors include the loved one's severe illness, the ICU environment, and the uncertainty of the prognosis (Kukora and Laventhal, 2024).

The model highlights the importance of how individuals appraise stressors, which affects their emotional and behavioural responses (Hundah et al., 2024). Family members might view the ICU situation as highly threatening, leading to significant stress, anxiety, depression, and PTSD symptoms (Seaton et al., 2024).

Coping in TMSC involves cognitive and behavioural efforts to manage stress (Hundah et al., 2024). It distinguishes between problem-focused coping (altering the stressor) and emotion-focused coping (regulating the emotional response) (Biggs et al., 2019; Seaton et al., 2024). ICU family members may use both types, such as seeking information and support, and engaging in social or spiritual practices (Algorani and Gupta, 2024; Frota et al., 2021).

The model also considers individual and situational factors that affect the stress and coping process, including personal traits like resilience, and external resources like family support (Biggs et al., 2019; Stahl, 2023). These factors influence stress appraisal, coping strategies, and psychological outcomes for ICU family members (Seaton et al., 2024).

By applying the TMSC, this research deepened the understanding of stress and coping among ICU family members, informing the development of tailored interventions and support systems based on a strong theoretical foundation (Kukora and Laventhal, 2024).

Conceptual Framework

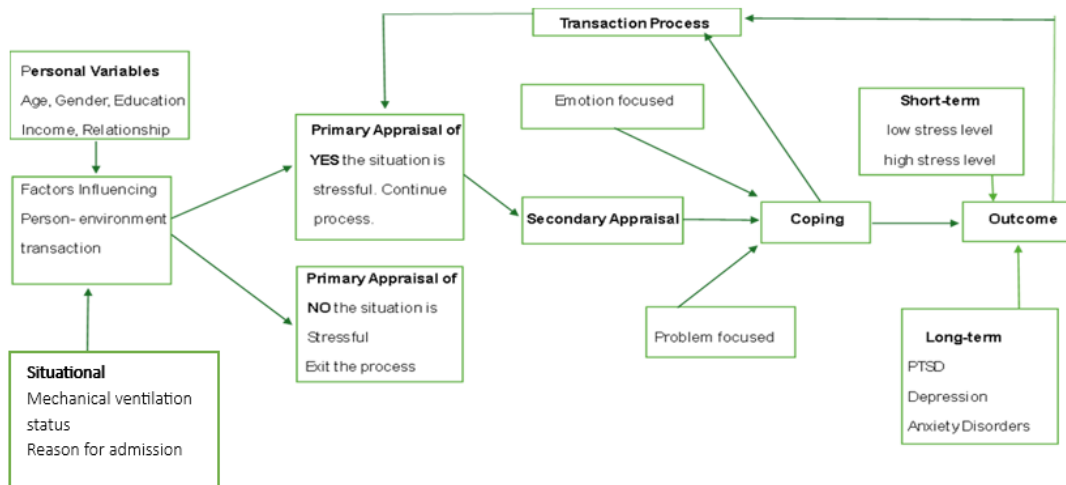


Figure 1.1: Adapted TMSC developed by Lazarus and Folkman (1984) (Schuster et al., 2003)

1.6 Research Questions

1. What are the levels of stress and the coping strategies used by family members of patients admitted to the ICU at Princess Marina Hospital?
2. What is the relationship between the coping strategies employed and the stress levels among these family members?
3. What is the influence of mechanical ventilation status, reason for ICU admission, and socio-demographic characteristics on the stress levels of family members of ICU patients?

1.7 General Objective

To assess stress and coping strategies among family members of patients admitted to the ICU at Princess Marina Hospital, Gaborone, Botswana.

1.8 Specific Objectives

1. To assess the level of stress and coping strategies among family members of patients admitted to the ICU at Princess Marina Hospital.
2. To determine the relationship between coping strategies and stress levels among these family members.
3. To examine the influence of mechanical ventilation status, reason for ICU admission, and socio-demographic characteristics on the stress levels of family members.

1.9 Hypothesis

Null Hypothesis (H₀): There is no association between the stress level and coping strategies used by family members of ICU patients.

1.10 Research Variables

The conceptual definitions of the dependent and independent variables are defined on table 1.2, which also show the cut off points of each variable.

1.10.1 Dependent Variable

Stress level among family members

1.10.2 Independent Variables

1. Coping strategies
2. Mechanical ventilation status
3. Reason for admission
4. Socio-demographic characteristics

Table 1.2: Variables and level of measurement

Variable	Definition of variables		Level of measurement			Question Number
	Conceptual	Operational	Indicator	Cut-off points	Type	
Dependent						
Stress level	Stress is defined as a state of worry or mental tension caused by a difficult situation (WHO, 2023)	The psychological and emotional strain experienced by family members due to the hospitalisation of a loved one in the ICU	Low	A score between 0-23	Ordinal	5-14
			High	A score between 27-40		
Independent						
Coping strategies	Coping strategies refer the thoughts and behaviours mobilized to manage internal and external stressful situations (Algorani and Gupta, 2024).	The cognitive and behavioural efforts employed by family members to manage the demands of having a loved one in the ICU	Problem-focused			15-42
			Yes	A score of 17 and above	Nominal	
			No	A score of 16 and below		
			Emotion-focused			
			Yes	A score of 25 and above	Nominal	
			No	A score of 24 and below		
Avoidant-focused						

			Yes	Score of 17 and above	Nominal	
			No	Score of 16 and below		
Mechanical ventilation status	Mechanical ventilation is the technique through which gas is moved toward and from the lungs through an external device (ventilator) connected directly to the patient.	The connection of the patient to the mechanical ventilator.	Yes	ETT/TT	Nominal	43
			No	NRM, CPAP		
Reason for admission	Specific medical reasons or criteria that justify a patient's admission to a health facility, such as a hospital, ICU or other specialized unit (Igorani and Gupta, 2024).	The primary diagnosis given to the illness of the patient by the physician when the patient was admitted to the ICU at PMH.	Post-operative	Admission via operating theatre	Nominal	44
			Non-operative	Admitted via wards and emergency department		

1.11 Chapter Summary

This chapter provided an overview of the proposed study on the stress and coping strategies of family members of ICU patients. The background section highlighted the significant psychological and emotional challenges faced by family members when a loved one admitted to the ICU and the importance of understanding their stress and coping experiences. The problem statement emphasized the gap in knowledge regarding the specific stressors and coping strategies of family members and the need for targeted interventions and support systems. The justification for the study outlined the potential benefits of the research, including the development of evidence-based interventions and support systems that can improve the well-being and resilience of family members. The conceptual framework, grounded in the Transactional Model of Stress and Coping, provided a theoretical foundation for understanding the complex interplay between stress, appraisal, and coping in this population. The research objectives and hypothesis were designed to address the specific aims of the study and generate a comprehensive understanding of the stress and coping experiences of family members of ICU patients. Finally, the research variables and cut-off points section operationalized the key variables of interest and established the measurement tools and criteria for assessing stress, coping strategies, and demographic characteristics.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviewed the existing literature on stress and coping strategies among family members of ICU patients. To gain a broader perspective on the topic, peer-reviewed journal articles from around the world to the local area were included. The articles sourced from different databases including PubMed, Science Direct, Wiley Online Library, SAGE Journals, Directory of Open Access Journals, Research Gate, and Google Scholar. The review synthesised various findings from previous studies, present different scholars' opinions on the topic, provides critiques, and identified gaps and limitations in the existing literature to highlight the need for further research in this area. This chapter begins with an overview of stress levels among family members of ICU patients, giving prevalence and nature of stress in this population, followed by a detailed discussion of key factors influencing stress levels, including coping strategies, the impact of mechanical ventilation status, and the reasons for ICU admission.

2.2 Overview of Stress Level Among Family Members of ICU Patients

Understanding the stress experienced by family members of ICU patients is essential, as their psychological well-being significantly affects decision-making, communication, and the overall care environment. Numerous studies have explored the extent and contributing factors of stress in this population, revealing varying patterns influenced by context, support systems, and healthcare dynamics.

High stress levels are common among family members of ICU patients; Białek and Sadowski's 2021 study found high stress in 33 respondents (89.19%), and similar results were reported by Abdul Halain et al. in 2022. A study by Ige et al. in Nigeria found psychological distress in 72.5% of relatives of critically ill patients. Attributed stressors included poor patient's prognosis, high mortality rate, limited communication with healthcare providers, and negative beliefs about professional caregivers (Abdul Halain et al., 2022; Ige et al., 2022; Krampe et al., 2021); these are potential stressors for the current study population (Dithole et al., 2016; Molebatsi et al., 2021). Cross-sectional studies with these results relied on self-reported measures of psychological distress, which can be influenced by subjective biases and may not always accurately reflect the participants' true psychological state.

In a qualitative study by de Beer and Brysiewicz carried out in South Africa, participants highlighted that they felt increasing emotional distress which eventually disrupted their physical functioning. Furthermore, impacts of high stress can linger with the relatives after the patients are discharged from ICU and present as PTSD (Dithole et al., 2013; Zhang et al., 2022) which was described as intrusive memories by 15 of 28 participants in a study that was carried out by Dithole et al to assess PTSD among relatives six months post ICU admission at Gaborone, Botswana. Implementing support measures such as pre- and post-counselling for relatives at various stages, structured communication, online resources and follow-up programs can help alleviate high-stress symptoms and improve the quality of life for relatives of ICU patients (Dithole et al., 2013; Hoffmann et al., 2022).

In a contradicting view, some studies found low to normal stress levels among ICU patients' family members (Kar and Tripathy, 2022; Lewis and Taylor, 2017; Miyamoto et al., 2021; Widyastuti et al., 2021). Relatives going through the ICU experience for the first time tend to show low-stress levels compared to those who have previous experiences (Lewis and Taylor, 2017). Additionally, higher satisfaction which may come as support and reassurance from medical personnel to the relatives also decreases the chances of increased levels of stress (Mottaghi et al., 2022; Widyastuti et al., 2021). Populations from low-income settings may also experience minimal stress levels when satisfied and when treatment is deemed a top-tier in a public care facility, which is more affordable than private-sector treatment (Kar and Tripathy, 2022).

Overall, the reviewed literature highlights a predominant trend of high stress among ICU relatives, though contextual factors such as communication quality, healthcare satisfaction, prior ICU exposure, and socio-economic setting influence these experiences. The persistence of stress post-discharge emphasizes the need for early psychosocial interventions. Contrasting findings suggest that when families are adequately supported, their stress can be managed effectively. These insights inform the current study's focus on understanding stress prevalence and coping strategies in the under-researched context of Botswana, guiding culturally appropriate recommendations.

2.3 Factors associated with stress level

2.3.1 Coping Strategies

Family members of ICU patients employ various coping strategies, emotion-focused, problem-focused, and avoidant, to manage the intense stress of their loved ones' critical care, with outcomes varying by strategy type and context. Understanding these strategies is crucial for developing targeted interventions to support relatives' psychological well-being

To analyse the coping strategies of family members of patients admitted to ICUs, Frota et al. (2021) conducted a cross-sectional study in an adult intensive care unit at a university hospital in Brazil. From the Folkman and Lazarus Inventory of Coping Strategies, the study found that emotion-focused coping strategies were the most frequently used. There were notable associations: women tended to use more adaptive problem-focused strategies, while individuals with lower education and income levels often resorted to maladaptive emotion-focused strategies (Frota et al., 2021). Coping strategies focused on emotion do not directly eliminate the source of stress, whereas the adaptive strategies (problem-focused) reduce symptoms resulting from stress and tension (Algorani and Gupta, 2024; Frota et al., 2021). Therefore, though adopted by most relatives' emotion-focused strategies are strongly associated with increased stress levels (Araghian-mojarad et al., 2020; Cairns et al., 2019; Olabisi et al., 2020; Turner-Cobb et al., 2019).

On the other hand, contrasting results were found by Arslan and Yıldırım, in 2021 and Ramadhan et al. in 2022; spiritual counselling, together with religious and spiritual support, which are subsets of emotion-focused strategy, were associated with reduced psychological distress. Self-control also has shown a potential to reduce stress when used with an awareness of implementation and intentionality (Faryabi et al., 2022; Iglesias et al., 2022).

Besides, emotion-focused, task-oriented (problem-focused) coping has shown a significant prevalence among the relatives of ICU patients, with a notable association between them and stress levels. In a study by Onrust et al. (2022), a very strong negative correlation was drawn between the use of problem-focused coping and stress levels. The relatives mostly aimed to understand the situation, interacted with staff members for professional information and adopted positive reframing.

These were similar conclusions from other studies done in Brazil, Turkey and Nigeria (Olabisi et al., 2020; Ozcelik and Erdogan, 2022; Pinheiro et al., 2022). Active interventions engaging family members are also effective in reducing stress levels, improving symptoms of depression, anxiety, and PTSD, as well as potentially reducing hospital costs (Rhoads et al., 2022). Though most relatives are unaware, problem-focused coping works effectively as first line to reduce distress and improve adjustment, whereas emotion-focused coping is only effective during follow-up adjustment programs (Biggs et al., 2019; Mottaghi et al., 2022; Olabisi et al., 2020).

However, the effectiveness of problem-focused coping may depend on the context in which it is employed, as it is not inherently considered positive in all situations (Stephenson and DeLongis, 2020). As a way to improve the psychological well-being of ICU experience using problem-focused coping, some facilities introduced the use of ICU diaries and they do not seem to have any beneficial effect on the family members of ICU patients (Barreto et al., 2019; Schofield et al., 2021; Ullman et al., 2015).

The use of the Brief Coping Orientation to Problems Experienced Inventory to assess the coping strategies highlighted that avoidance-focused coping is also a means for some family members. In a 2015 study by Petrinc et al., avoidant coping use was associated with an increased risk of later PTSD symptoms. In particular, self-distraction and substance use are the common subsets linked to the development of PTSD (Woinarovicz and Moreira, 2020). Once interventions to diminish avoidant coping use were implemented, notable reductions in PTSD symptoms were recorded. Results of a study done in the UK to find an association between coping strategies and stress level found that the coping strategy used is not always a factor, and aspects like geographical area can rather influence the stress level (Laurent et al., 2023).

This literature informs the current study by highlighting the prevalence and differential impacts of emotion-focused, problem-focused, and avoidance-focused coping strategies among ICU patients' family members. Problem-focused strategies appear most effective for reducing stress initially, while certain emotion-focused approaches, like spiritual support, may aid specific populations. However, the reliance on maladaptive or avoidant coping by some groups underscores the need for tailored interventions.

The current study can build on these findings by exploring how contextual factors, such as socioeconomic status or cultural beliefs, shape coping strategy effectiveness, aiming to design targeted support programs to mitigate stress and prevent long-term psychological issues like PTSD.

2.3.2 Mechanical Ventilation

Mechanical ventilation, a hallmark of severe illness in ICU settings, significantly contributes to the stress experienced by family members of critically ill patients. This review synthesizes literature on how mechanical ventilation influences relatives' stress levels and informs the current study's focus on their psychological well-being.

Family members highlighted that seeing their loved one for a limited time is a hard pill to swallow even worse when they have tubes in their nose and/or mouth (Bitencourt et al., 2017). Family assistance and involvement in ICU care tasks can give family members a sense of purpose, be supportive and serve as a protective mechanism to reduce stress however, when a patient is intubated, there is so much they can do hence significantly increased stress levels (Lange et al., 2022; Smithburger et al., 2017). According to Van Sleeuwen et al. (2020), caregivers reported continuous stress owing to frequently re-experiencing ICU-related phenomena with triggers for this including a sound similar to that of a ventilator machine even on television.

A downside to the results of Van Sleeuwen et al. is that only the partners of the patients made part of the study sample which could have skewed the results. A demographically diverse study sample is ideal and most likely will bring out broadened information such as in studies by Gil-Juliá et al. (2021) and Gurbuz and Demir (2023) where relatives who were more literate enough to comprehend the function of a ventilator machine presented with low stress levels. Though limited on variables considered, Blok et al. (2023) also found a weak correlation between illness severity and stress level.

This literature informs the current study by highlighting mechanical ventilation as a significant stressor for ICU patients' family members, exacerbated by restricted visitation and limited care involvement. While education about ventilators may reduce stress for some, persistent triggers like ventilator sounds underscore the need for targeted interventions.

The current study can extend these findings by investigating how demographic factors, such as health literacy and relationship to the patient, influence stress responses to mechanical ventilation, aiming to develop support strategies that address both emotional distress and practical barriers in the ICU environment.

2.3.3 Reason of Admission

The sudden and often unanticipated nature of ICU admissions significantly contributes to the psychological distress experienced by family members. This review examines how the reason for ICU admission influences relatives' stress levels and informs the current study's exploration of targeted support interventions.

Often, admission to the ICU is sudden and both patients and family are not prepared leaving them in shock (Dithole et al., 2016). A study in Brazil by Barth et al. (2016) identified the main stressors of family members to be patient being in a state of coma. The patient being unable to speak and the reason for admission. After removing the coma patients from the analysis, the main stressors for the relatives were the reason for admission and most patients admitted to the ICU were so for non-surgical clinical reasons (52.2%) (Barth et al., 2016). The same observation was made in a prospective before-and-after implementation study to evaluate the impact of Visual Support Dedicated to Prognosis on ICU family members' stress symptoms. From the study, both the before and after implementation relatives of patients with non-operative conditions (respiratory failure, shock, coma, renal failure) presented with higher stress levels than the relatives of those who were admitted postoperatively (Veislinger-Burelli et al., 2021). Severe and very severe levels of psychological reactions are mostly observed in general ICUs compared to specialised ICUs such as the Cardiac Intensive Care Unit (CCU); families of CCUs usually tolerate these psychological pressures proportionately (Askari et al., 2016).

Contradicting this trend, according to Hoffmann et al. (2022) regardless of the reason for admission being either medical or surgical, the stress level and PTSD will remain severe as long as the relatives had been present at the event that led to ICU admission. Interestingly, the caregivers of patients with chronic illnesses allude that they even experienced better mental health during ICU hospitalisation than they did before.

They explain that they were already overloaded as informal caregivers of their chronically ill partner prior to hospitalisation; ICU admission offers them more time and space for themselves instead of having to take care of their partner continuously (van Sleuwen et al., 2020).

This literature informs the current study by highlighting the significant role of ICU admission reasons in shaping family members' stress levels, with non-surgical conditions and sudden admissions linked to higher distress. The findings suggest that tailored interventions, such as enhanced communication about prognosis or support for caregivers of chronically ill patients, could mitigate stress. The current study in Botswana can address gaps in region-specific data by examining how socio-cultural factors and admission reasons interact to influence stress, thereby informing culturally relevant support strategies to improve family well-being and critical care outcomes in sub-Saharan Africa.

2.4 Conclusion

The reviewed literature consistently demonstrates that family members of critically ill patients experience significant psychological distress, including anxiety, depression, and stress, influenced by various sociodemographic factors. Several studies, including those by Gil-Juliá et al. (2021), Gurbuz and Demir (2023), and Olabisi et al. (2020), highlight the impact of factors such as the severity of illness as well as indication of admission. Studies have highlighted that the type of coping strategy would affect the level of psychological distress experienced by the family members. However, there were gaps in understanding the long-term effects of ICU stays on family dynamics and the efficacy of coping strategies across different cultural contexts, as most studies are cross-sectional and primarily conducted in Europe and America. Small sample sizes, often due to the nature of ICUs, limit the statistical power and representativeness of findings. Including multiple centres in studies might mitigate this issue. Additionally, many studies lack detailed demographic and clinical information necessary for a comprehensive understanding of distress factors.

To address these gaps, particularly the lack of research from sub-Saharan Africa, a study in Botswana could shed light on the unique socio-cultural dynamics and stressors experienced by family members in this region. This region-specific data could inform targeted interventions and policies to support family members of ICU patients more effectively, improving overall critical care outcomes. Despite their limitations, existing studies provided initial insights and identified key variables and stressors, setting the stage for more extensive future research. Conducting a similar study in Botswana would offer the same benefits.

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents a description of the research methodology employed in the study, focusing on the stress and coping strategies of family members of ICU patients. The chapter outlined the study design, setting, population, sample size, sampling technique, inclusion and exclusion criteria, data collection tools and techniques, data analysis, and ethical and cultural considerations.

3.2 Study Design

The study assumed a cross-sectional descriptive quantitative design. This approach measured stress levels and coping strategies among family members of ICU patients, aiming to produce statistical data that could be used reference point for future studies. As a quantitative study, the research identified prevalent trends in stress levels as well as establish existence of any relationship to possible influencing factors.

3.3 Study Setting

The study was conducted in the ICU at Princess Marina Hospital (PMH), a tertiary hospital in Gaborone, Botswana. PMH, a major referral hospital, has an 8-bed intensive care unit that provides care to both adults and paediatrics admitted for surgery, post-operative care, trauma, and medical disorders. This ICU was ideal for the study, as it cares for critically ill patients from various backgrounds and conditions. Patients admitted to this ICU are not only from Gaborone as surrounding areas but from different locations in the southern part of Botswana. Conducting the study in this environment provided valuable insights into family members' stress and coping experiences within Botswana's healthcare system (Opondo et al., 2020).

3.4 Study Population

3.4.1 Target Population

All family members of patients admitted to intensive care units in public hospitals across Botswana.

3.4.2 Accessible Population

Family members of patients admitted to the ICU at Princess Marina Hospital in Gaborone during the study period.

3.5 Sample Size Determination

The population was estimated using the unit's patient admission and discharge register of previous years, and 70 family members from quarterly statistics determined the sample size. This estimate took into account that each patient had only 2 registered family members visiting during their ICU stay, and both were included in the study. Due to this being a finite population, the sample size for the study was determined using the Taro Yamane formula as follows:

$$n = \frac{N}{1 + N(e)^2}$$

Where:

n = sample size

e = precision level (assumed to be 0.05)

N = population size

The calculated sample size is:

$$n = \frac{70}{1 + 70(0.05)^2} = 59 \text{ participants}$$

3.6 Sampling Technique

The census technique was used to derive a total sample size of 59 respondents for the study due to a smaller population size. Additionally, the data collected represented true results, and all family members' opinions were represented since the census method involved everyone in the population.

3.7 Inclusion and Exclusion Criteria

3.7.1 Inclusion Criteria

1. Family members of patients admitted to the ICU for at least 24 hours
2. Family members who were aged 18 years and above

3.7.2 Exclusion Criteria

1. Family members of patients who died during the period of data collection
2. Family members who were unable to provide informed consent due to cognitive impairment or severe emotional distress
3. Family members who were healthcare professionals working in the same ICU as the patient

3.8 Data Collection Tool and Technique

3.8.1 Data collection tool

A structured interview schedule with three sections was used:

Section A: Designed by the researcher, this section collected socio-demographic data such as age, gender, and relation to the admitted patient, which family members answered during the interview. The researcher completed the part on the patient's condition based on the patient's file.

Section B: This section included the Perceived Stress Scale (PSS-10), a tool developed by Sheldon Cohen in 1983 to measure stress perception (Shobana, 2021). The PSS-10 evaluated the unpredictability, uncontrollability, and overload of respondents' lives through 10 items rated from 0 (never) to 4 (very often), with higher scores indicating greater perceived stress (Janah and Hargiana, 2021). The PSS-10 was validated and reliable, showing a Cronbach's alpha greater than 0.70 (Huang et al., 2020; Mozumder, 2022). It was pre-tested with 10 family members to ensure clarity and suitability (Janah and Hargiana, 2021).

Section C: This section utilized the brief Coping Orientation to Problems Experienced (Brief-COPE) inventory, a shortened version of the COPE Inventory by Charles Carver, to assess coping responses (Brambila-Tapia et al., 2023; Pinheiro et al., 2022).

The Brief-COPE consisted of 28 items divided into 14 subscales, each representing a different coping strategy, rated on a 4-point Likert scale from 1 ("I haven't been doing this at all") to 4 ("I've been doing this a lot"). The subscales included problem-focused coping (Cronbach's alpha = 0.75), emotion-focused coping (Cronbach's alpha = 0.76), and avoidant coping (Cronbach's alpha = 0.69) (Pinheiro et al., 2022). Each subscale was scored by summing the responses to its two items, with scores ranging from 2 to 8, indicating the extent of use of each coping strategy (García et al., 2018; Pinheiro et al., 2022).

The tools have previously been used worldwide, including two regions of Nigeria and have produced validated results (Ige et al., 2022; Olabisi et al., 2020). Botswana and Nigeria share similar cultural and healthcare contexts, including strong communal or family-oriented coping systems, high ICU mortality rates in public hospitals, and limited access to psychological support services. These similarities supported the suitability of the tools for this study. Additionally, the instruments were relatively short and easy to interpret, allowing for quick administration and immediate feedback during a single hospital visit without placing a significant time burden on family members. To ensure clarity and cultural relevance, forward-backward translation and pilot testing were conducted. Forward translation was carried out by a professional translator with medical training, while the backward translation was performed by a separate, independent translator.

3.8.2 Data collection technique

The prospective respondents were approached during ICU visiting hours and asked if they were interested in participating in the research. Upon receiving their verbal consent, an appointment was scheduled at a convenient time for the respondent. During this appointment, the purpose and procedures of the study were explained in detail, and participants were allowed to ask questions. Those who agreed to participate provided written informed consent before any data was collected. The interviews were administered by a single individual, the researcher, to ensure uniformity. The interviews were conducted in a secluded, quiet room within the hospital to ensure privacy and the questionnaires were verbally administered in person, and the responses were recorded by the researcher.

The researcher provided clear instructions on how each question should be responded to, and clarity on any item was provided as the interview continued. The relatives were given the option of not answering any question they were not comfortable with, and they were allowed to withdraw from the interview at any time if they so wished. The data collection was done under a 45-minute time frame, including reading the information sheet, signing of informed consent and finally conducting the interview schedule.

3.8.3 Validity and Reliability

3.8.3.1 Validity

To ensure construct and internal validity, an extensive literature review was conducted, which provided a guide when designing a data collection tool, thus ensuring that only relevant questions about the study variables are included in the questionnaire. Content and face validity were ensured through subjecting the data collection tool to research supervisors and experts who reviewed the questions to determine whether they elicited the desired responses from the study participants. The questions were constructed in a simple, clear and concise manner for respondents to give clear answers.

3.8.3.2 Reliability

To ensure reliability in assessing stress and coping strategies among family members of ICU patients at Princess Marina Hospital (PMH), several measures were implemented. Data were collected using standardised, validated instruments, including the Perceived Stress Scale (PSS-10) and the Coping Orientation to Problems Experienced (COPE) Inventory, which have demonstrated high internal consistency in prior studies (Ige et al., 2020; Olabisi, 2022). A pilot study involving 6 family members was conducted to test the instruments and administration procedures, allowing refinement of question clarity and cultural appropriateness for Botswana's context. The researcher consistently administered the surveys, following a standardised protocol that specified the setting (private hospital isolated room) to minimize environmental variability. Additionally, data entries were double-checked by two researchers to ensure accuracy and reduce errors. These measures collectively enhanced the reliability of the study's findings, ensuring consistent and reproducible results.

3.9 Data Management and Analysis

After collecting the data, the researcher processed and analysed the data. The researcher examined the raw data to detect errors and omissions and correct them when necessary and possible. Once the examination of the raw data was completed, the encoding step was followed to clean and classify the raw data into a usable and purposeful category in Excel. Post data collection, the completed questionnaires were kept under lock and key for security and to keep away from unauthorized access to the information gathered in the researcher's cabinet and on a personal password-protected computer. The researcher did not, in any circumstance, falsify data or make claims that were not adequately supported by the results of the research study. All secondary data sources were properly cited and acknowledged as prescribed by the Harvard referencing style.

The questionnaire data, composed entirely of closed-ended Likert-scale items, was initially coded in Microsoft Excel and later imported into SPSS for analysis. Each Likert-scale response was assigned a numeric code ranging from 1 (Strongly Disagree) to 5 (Strongly Agree), with reverse-coded items adjusted to align with the overall scale direction. Socio-demographic variables such as gender (1 = Male, 2 = Female) were also coded numerically for consistency. Data cleaning was conducted in SPSS to check for missing values and ensure accuracy before proceeding with descriptive and inferential statistical analyses.

Data verification and validation were performed by rechecking all data entries with the original data forms to achieve a clean dataset that was exported into a Statistical Package for Social Sciences (SPSS) version 27.0. Data analysis involved descriptive and inferential statistics. Descriptive statistics were used to summarize the demographic characteristics and the levels of stress and coping strategies, and were presented as raw figures and percentages, and in the form of pie charts and frequency and cross-tabulation tables for easy understanding. To determine the relationship between the stress level and the independent variables, the Chi-square test and Fisher's exact test were employed. Independent variables at the level of statistical significance of $p < 0.05$ at 95% CI were considered significant.

3.10 Pilot Study

A pilot test was conducted at Princess Marina Hospital (PMH) to assess the clarity, reliability, and cultural relevance of the data collection instruments. The pilot involved 10% of the estimated sample size ($n = 6$), selected from family members of ICU patients who met the study's inclusion criteria. These participants were not included in the final sample to prevent data contamination.

During the pilot, respondents completed the questionnaire and were encouraged to provide feedback on any items they found unclear, confusing, or culturally inappropriate. Their responses and comments were documented systematically. Based on this feedback, minor adjustments were made to improve the clarity and wording of selected questions, while preserving the original meaning and content of the tool.

3.11 Ethical and Cultural Considerations

Registration as a researcher in Zambia was made with the National Health Research Authority (NHRA [REF: NHRAR-R-1518/24/04/2024]). Ethical approval for the study was obtained from the University of Zambia Biomedical Research Ethics Committee (UNZABREC [REF. No. 5820-2024]), Institutional Research Board at PMH (REF: PMH 2/11AII [644]) as well as Human Research and Development Committee, Botswana (REF: HPRD: 6/14/1).

Informed consent was obtained from all respondents, and they were assured of the confidentiality and anonymity of their responses. Respondents were informed of their right to withdraw from the study at any time without any consequences. The study also considered the cultural diversity of the respondents and ensured that the data collection tools and techniques were culturally sensitive and appropriate. The researcher demonstrated cultural competence and respect for the respondents' cultural beliefs, practices, and values. For the intense emotional distress likely caused during data collection, the respondents were referred to the psychology department at PMH for consultation.

3.12 Chapter Summary

This chapter outlined the methodology used in the study. The study employed a cross-sectional descriptive design, and a total sampling technique was used to select the sample. Data were collected using an interview schedule. The data were analysed using descriptive and inferential statistics. The study adhered to research ethical principles and all permissions and authorisations from relevant ethical and management bodies were obtained.

CHAPTER FOUR

RESULTS

4.1 Introduction

This chapter presents research results based on the analysis of data collected from family members of patients admitted to the ICU at PMH in Gaborone, Botswana. A total of 58 respondents who were successfully surveyed were included in the analysis. The analysed data were summarized and presented in line with the study's specific objectives which were to (1) determine the stress level among family members of patients admitted to ICU, (2) identify the coping strategies employed by family members of patients admitted to ICU, and (3) determine the association between the stress levels and coping strategies of family members of patients admitted to ICU at PMH, Gaborone, Botswana. The chapter outlines the descriptive statistics and ends by presenting cross-tabulations and regression odds ratios with corresponding CI and p-values for associations between independent and dependent variables considered. The results of this study are presented using frequency tables and contingency tables in line with the study's specific objectives.

4.2 Sociodemographic and Patient-Related Characteristics

The sociodemographic characteristics of the study respondents, as well as key clinical characteristics of the associated ICU patients, are presented in table 4.1. Respondent variables included age, gender, and relationship to the patient. These were important in understanding the background and potential emotional burden of the family members. Additionally, patient-related characteristics such as length of ICU admission, reason for admission, and mechanical ventilation status were recorded from the patients' files. These variables were included due to their potential influence on the respondent's stress level and coping strategies. These variables provide essential context for interpreting the psychological responses of family members during the ICU stay.

Table 4.1: Sociodemographic and Patient-Related Characteristics

Variable	Frequency	Percentage
Age (years)		
≤34	20	34.5
35 – 44	17	29.3
≥ 45	21	36.2
Total	58	100
Gender		
Female	36	62.1
Male	22	37.9
Total	58	100
Relationship to patient		
Spouse/partner	11	19
Parent	17	29.3
Child	10	17.2
Sibling	20	34.5
Total	58	100
Length of ICU admission		
1 – 3 days	30	51.7
4 – 7 days	6	10.4
> 7 days	22	37.9
Total	58	100
Reason for admission		
Post-operative	17	29.3
Non-operative	41	70.7
Total	58	100
Mechanical ventilation Status		
Yes	49	84.5
No	9	15.5
Total	58	100

Table 4.1 above shows that 36.2% (21/58) respondents were in the age group over 45 years; 62.1% (36/58) respondents were female; 34.5% (20/58) respondents were nursing their sibling; 51.7% (30/58) respondents were nursing patients who had been admitted for 1 – 3 days; 70.7% (41/58) respondents were nursing patients admitted for non-operative reasons; and 84.5% (49/58) respondents were nursing patients on mechanical ventilatory support.

4.3 Stress Levels among Family Members of Patients Admitted to ICU

The stress levels among family members of patients that were admitted to the ICU are shown in Table 4.2. The aggregates and percentages scored by the 58 respondents on the 10 questions of the PSS-10 scored on 5-point Likert scale as never (0), almost never (1), sometimes (2), fairly often (3) or very often (4) for each question.

Table 4.2: Distribution of respondents' PSS-related characteristics (N=58)

	Frequency (%)				
	Never	Almost never	Sometimes	Fairly often	Very often
Since admission of your loved one, how often have you been upset because of something that happened unexpectedly?	16 (27.6)	3 (5.2)	3 (5.2)	8 (13.7)	28 (48.3)
Since admission of your loved one, how often have you felt that you were unable to control the important things in your life?	14 (24.2)	2 (3.4)	6 (10.3)	7 (12.1)	29 (50)
Since admission of your loved one, how often have you felt nervous and stressed?	2 (3.4)	0	2 (3.4)	11 (19.1)	43 (74.1)
Since admission of your loved one, how often have you felt confident about your ability to handle your personal problems?	25 (43.1)	10 (17.2)	14 (24.2)	0	9 (15.5)
Since admission of your loved one, how often have you felt that things were going your way?	33 (57)	9 (15.5)	8 (13.8)	2 (3.4)	6 (10.3)
Since admission of your loved one, how often have you found that you could not cope with all the things that you had to do?	11 (19)	8 (13.8)	10 (17.2)	12 (20.7)	17 (29.3)
Since admission of your loved one, how often have you been able to control irritations in your life?	24 (41.4)	4 (6.9)	19 (32.8)	5 (8.6)	6 (10.3)
Since admission of your loved one, how often have you felt that you were on top of things?	33 (56.9)	10 (17.2)	11 (19.1)	2 (3.4)	2 (3.4)
Since admission of your loved one, how often have you been angered because of things that happened that were outside of your control?	7 (12.1)	0	4 (6.9)	23 (39.6)	24 (41.4)
Since admission of your loved one, how often have you felt difficulties were piling up so high that you could not overcome them?	6 (10.3)	2 (3.4)	5 (8.7)	21 (36.2)	24 (41.4)

Table 4.2 shows that 50% (29/58) respondents indicated that they very often felt that they were unable to control the important things in their life; when asked about how often have respondents felt nervous and stressed, 74.1% (43/58) respondents indicated that they very often felt nervous and stressed; 57% (33/58) respondents indicated that they never felt that things were going their way, and that they never felt they were on top of things.

The aggregated scoring from the scores on the questions in table 4.2 was categorised as low stress level and high perceived stress level following the categorisation prescribed for the variable, and summarised in table 4.3.

Table 4.3: Distribution of respondents according to levels of stress (N=58)

Stress Levels	Frequency	Percentage
Low stress	12	20.7
High perceived stress	46	79.3
Total	58	100

Table 4.3 showed that 79.3% (46/58) of respondents had a high perceived stress level; while 20.7% (12/58) respondents had low stress level, with mean PSS score of 28.5 (± 7.21) ranging from 8 to 40 score.

4.4 Coping Strategies of Family Members of Patients Admitted to ICU

4.4.1 Problem-Focused Coping

The aggregates and percentages scored by the 58 respondents on eight questions of the Brief-COPE on four facets of problem-focused coping scored on a 4-point Likert scale from 1 – 4 for each question are shown in Table 4.4. The aggregated scoring from the scores on these questions was categorised as yes for adaptive problem-focused coping and no for maladaptive problem-focused coping, following the categorisation prescribed for the variable.

Table 4.4: Distribution of respondents' problem-focused coping-related characteristics (N=58)

Problem-focused subscale	Frequency	%
I have been concentrating my efforts on doing something about the situation I'm in		
I haven't been doing this at all	5	8.6
I have been doing this a little bit	3	5.2
I have been doing this a lot	50	86.2
I have been taking action to try to make the situation better		
I haven't been doing this at all	24	41.4
I have been doing this a little bit	2	3.4
I have been doing this a lot	32	55.2
I have been getting help and advice from other people		
I haven't been doing this at all	20	34.5
I have been doing this a little bit	3	5.2
I have been doing this a lot	35	60.3
I have been trying to see it in a different light, to make it seem more positive		
I haven't been doing this at all	31	53.4
I have been doing this a little bit	3	5.2
I have been doing this a medium amount	1	1.7
I have been doing this a lot	23	39.7
I have been trying to come up with a strategy about what to do		
I haven't been doing this at all	24	41.4
I have been doing this a little bit	4	6.9
I have been doing this a medium amount	2	3.4
I have been doing this a lot	28	48.3
I have been looking for something good in what is happening		
I haven't been doing this at all	36	62.1
I have been doing this a little bit	3	5.2
I have been doing this a medium amount	3	5.2
I have been doing this a lot	16	27.5
I have been trying to get advice or help from other people about what to do		
I haven't been doing this at all	26	44.8
I have been doing this a little bit	4	7
I have been doing this a medium amount	2	3.4
I have been doing this a lot	26	44.8
I have been thinking hard about what steps to take		
I haven't been doing this at all	22	37.9
I have been doing this a little bit	1	1.7
I have been doing this a medium amount	4	6.9
I have been doing this a lot	31	53.5
Problem-Focused Coping		
Adaptive coping	45	77.6
Maladaptive coping	13	22.4
Total	58	100

Table 4.4 shows that 86.2% (50/58) respondents indicated that they were concentrating their efforts on doing something about the situation they were in; and 55.2% (32/58) indicated that they were taking action to try to make the situation better. When asked about use of informational support, 60.3% (35/58) respondents indicated that they were getting help and advice from other people. When asked about positive reframing, 62.1% (36/58) respondents indicated that they were looking for something good in what was happening.

Overall, 77.6% (45/58) respondents had adaptive problem-focused coping strategies; while 22.4% (13/58) respondents had maladaptive problem-focused coping strategies as shown in table 4.4, with a mean score of 21.3 (± 7.19) ranging from 8 to 32.

4.4.2 Emotion-Focused Coping

The aggregates and percentages scored by the 58 respondents on 12 questions of the Brief-COPE on six facets of emotion-focused coping scored on a 4-point Likert scale from 1 – 4 for each question are show in Table 4.5. The aggregated scoring from the scores on these questions was categorised as yes for adaptive emotion-focused coping and no for maladaptive emotion-focused coping, following the categorisation prescribed for the variable.

Table 4.5: Distribution of respondents’ emotion-focused coping-related characteristics (N=58)

Emotion focused subscale	frequency	Percentage
I have been getting emotional support from others		
I haven't been doing this at all	9	15.5
I have been doing this a little bit	1	1.7
I have been doing this a medium amount	3	5.2
I have been doing this a lot	45	77.6
I have been saying things to let my unpleasant feelings escape		
I haven't been doing this at all	25	43.1
I have been doing this a little bit	2	3.4
I have been doing this a medium amount	1	1.7
I have been doing this a lot	30	51.8
I have been criticizing myself		
I haven't been doing this at all	23	39.7
I have been doing this a little bit	3	5.2
I have been doing this a medium amount	5	8.6
I have been doing this a lot	27	46.5
I have been getting comfort and understanding from someone		

I haven't been doing this at all	19	32.8
I have been doing this a little bit	7	12
I have been doing this a medium amount	4	6.9
I have been doing this a lot	28	48.3
I have been making jokes about it		
I haven't been doing this at all	42	72.4
I have been doing this a little bit	1	1.7
I have been doing this a lot	15	25.9
I have been accepting the reality of the fact that it has happened		
I haven't been doing this at all	33	56.9
I have been doing this a little bit	6	10.3
I have been doing this a medium amount	4	6.9
I have been doing this a lot	15	25.9
I have been expressing my negative feelings		
I haven't been doing this at all	37	63.8
I have been doing this a little bit	2	3.4
I have been doing this a medium amount	6	10.3
I have been doing this a lot	13	22.5
I have been trying to find comfort in my religion or spiritual beliefs		
I haven't been doing this at all	7	12.1
I have been doing this a little bit	8	13.8
I have been doing this a medium amount	2	3.4
I have been doing this a lot	41	70.7
I have been learning to live with it		
I haven't been doing this at all	45	77.6
I have been doing this a little bit	4	6.9
I have been doing this a medium amount	4	6.9
I have been doing this a lot	5	8.6
I have been blaming myself for things that happened		
I haven't been doing this at all	23	39.7
I have been doing this a medium amount	5	8.6
I have been doing this a lot	30	51.7
I have been praying or meditating		
I haven't been doing this at all	6	10.3
I have been doing this a little bit	6	10.3
I have been doing this a medium amount	5	8.6
I have been doing this a lot	41	70.8
I have been making fun of the situation		
I haven't been doing this at all	36	62.1
I have been doing this a medium amount	2	3.4
I have been doing this a lot	20	34.5
Emotion-Focused Coping		
Adaptive coping	54	93.1
Maladaptive coping	4	6.9
Total	58	100

Table 5.4 shows that 77.6% (45/58) respondents indicated that they were getting emotional support from other. When asked about humour, 72.4% (42/58) respondents and 62.1% (36/58) respondents indicated that they were not making jokes and fun of their situation, respectively. When asked about acceptance, 56.9% (37/58) respondents indicated that they were not accepting the reality of the what happened; and 77.6% (45/58) respondents indicated that they were not learning to live with the situation. When asked about venting, 63.8% (37/58) respondents indicated that they were not expressing they negative feelings. When asked about religion, 70.7% (41/58) respondents indicated that they were trying to find comfort in their religion/spiritual beliefs; and 70.8% (41/58) respondents indicated that they were praying/ meditating.

Overall, 93.1% (54/58) respondents had adaptive emotion-focused coping strategies; while 6.9% (4/58) respondents had maladaptive emotion-focused coping strategies as shown in table 4.5, with a mean score of 30.1 (± 4.17) ranging from 21 to 39.

4.4.3 Avoidant Coping

The aggregates and percentages scored by the 58 respondents on eight questions of the Brief-COPE on four facets of avoidant coping scored on a 4-point Likert scale from 1 – 4 for each question are shown in Table 4.6. The aggregated scoring from the scores on these questions was categorised as yes for adaptive avoidant coping and no for maladaptive avoidant coping, following the categorisation prescribed for the variable.

Table 4.6: Distribution of respondents' avoidant coping characteristics (N=58)

Avoidant subscale	Frequency	Percentage
I have been turning to work or other activities to take my mind off things		
I haven't been doing this at all	21	36.2
I have been doing this a little bit	3	5.2
I have been doing this a lot	34	58.6
I have been saying to myself "this isn't real."		
I haven't been doing this at all	11	19
I have been doing this a medium amount	2	3.4
I have been doing this a lot	45	77.6
I have been using alcohol or other drugs to make myself feel better		
I haven't been doing this at all	41	70.7
I have been doing this a little bit	2	3.4
I have been doing this a medium amount	6	10.3
I have been doing this a lot	9	15.6
I have been giving up trying to deal with it		
I haven't been doing this at all	54	93.2
I have been doing this a medium amount	2	3.4
I have been doing this a lot	2	3.4
I have been refusing to believe that it has happened		
I haven't been doing this at all	11	19
I have been doing this a little bit	3	5.2
I have been doing this a medium amount	4	6.9
I have been doing this a lot	40	68.9
I have been using alcohol or other drugs to help me get through it		
I haven't been doing this at all	37	63.8
I have been doing this a little bit	3	5.2
I have been doing this a medium amount	6	10.3
I have been doing this a lot	12	20.7
I have been giving up the attempt to cope		
I haven't been doing this at all	52	89.7
I have been doing this a little bit	1	1.7
I have been doing this a medium amount	2	3.4
I have been doing this a lot	3	5.2
I have been doing something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping, or shopping		
I haven't been doing this at all	5	8.6
I have been doing this a little bit	2	3.4
I have been doing this a medium amount	2	3.4
I have been doing this a lot	49	84.6
Avoidant Coping		
Adaptive coping	46	79
Maladaptive coping	12	21
Total	58	100

Table 4.6 shows that, 58.6% (34/58) respondents indicated that they were turning to work or other activities to take their mind off things; and 84.6% (49/58) respondents indicated that they did something to think about the situation less. When asked about denial, 77.6% (45/58) respondents indicated that they denied their relatives' illness was not real; and 68.9% (40/58) respondents indicated that they refused to believe that it happened. When asked about substance use, 70.7% (41/58) respondents indicated that they did not use alcohol or other drugs to make themselves feel better; and 63.8% (37/58) respondents indicated that they did not use alcohol or other drugs to help them get through the situation. Further, when asked on behavioural disengagement, 93.2% (54/58) respondents indicated that they did not give up trying to deal with the situation; and 89.7% (52/58) respondents indicated that they did not give up the attempt to cope. Overall, 79% (46/58) respondents had adaptive avoidant coping strategies; while 21% (12/58) respondents had maladaptive avoidant coping strategies as shown in table 4.6, with a mean score of 19.1 (± 3.8) ranging from 8 to 29.

4.5 Chi-Square Test Results of Association Between Variables

The distribution of respondents' stress levels across various independent variables are shown in Table 4.6. The table shows the breakdown by age, gender, relationship to patient, length of ICU admission, reason for ICU admission, mechanical ventilation status, and coping strategies. For each variable, the number and percentage of respondents who were less stressed to highly stressed are presented. The table also includes the corresponding p-values to indicate the statistical significance of the associations.

Table 4.7: Chi-square test results of factors associated with the stress level (N=58)

Variable	Stress level (%)		P-value
	Low	High	
Age (years)			0.255
18 -34	6 (30)	14 (70)	
35 – 44	4 (23.5)	13 (76.5)	
≥45	2 (9.5)	19 (90.5)	
Gender			0.505*
Female	6 (16.7)	30 (833.3)	
Male	6 (27.3)	16 (72.7)	
Relationship to patient			0.141
Spouse/partner	0	11 (100)	
Parent	3 (17.6)	14 (82.4)	
Child	2 (20)	8 (80)	
Sibling	7 (35)	13 (65)	
Length of ICU admission			0.123
1 – 3 days	4 (13.3)	26 (86.7)	
4 – 7 days	4 (66.7)	2 (33.3)	
> 7 days	4 (18.2)	18 (81.8)	
Reason for admission			0.088*
Post operative	1 (5.9)	16 (94.1)	
Non-operative	11 (26.8)	30 (73.2)	
Mechanical ventilation			0.668
Yes	11 (22.4)	38 (77.6)	
No	1 (11.1)	8 (88.9)	
Problem-focused coping			0.037
Yes	12 (26.7)	33 (73.3)	
No	0	13 (100)	
Emotion-focused coping			0.571*
Yes	12 (22.2)	42 (77.8)	
No	0	4 (100)	
Avoidant coping			0.699
Yes	10 (21.7)	36 (78.3)	
No	2 (16.7)	10 (83.3)	

*Fishers exact test

Table 4.7 reveals that problem-focused coping ($p = 0.037$) was statistically significantly associated with stress level among respondents, indicating that these factors have an influence whether respondents were highly stressed or not. However, age group ($p = 0.255$), gender ($p = 0.505$), relationship with patient ($p = 0.141$), length of ICU admission ($p = 0.123$), reason for admission ($p = 0.088$), mechanical ventilation status ($p = 0.668$), emotion-focused coping ($p = 0.571$), and avoidant coping ($p = 0.699$) were not statistically significantly associated with respondents' stress levels, indicating that these factors does not influence whether respondents were highly stressed or not.

4.6 Chapter Summary

This chapter presented research results based on the analysis of data collected from family members of patients admitted to ICU at PMH, Gaborone, Botswana. The chapter first described how data were presented, then outlined the descriptive statistics and ended with presenting cross-tabulations with corresponding p-values for associations between independent and dependent variables considered. The results of this study were presented using frequency tables, charts, and contingency tables in line with the study's specific objectives.

CHAPTER FIVE

DISCUSSION OF THE RESULTS

5.1 Introduction

This chapter discussed the results regarding stress levels, the use of problem-focused, emotion-focused, and avoidant coping strategies, and the sociodemographic predictors of stress in relation to existing literature. The study's results are discussed in relation to the Transactional Model of stress and coping. The chapter also presents the implications of the results to critical care nursing, and presents the limitations encountered during the study process. Finally, the study presents the recommendations and conclusion to the results.

5.2 Demographic characteristics of the respondents

The sociodemographic characteristics of family members of patients admitted to the ICU at Princess Marina Hospital provided valuable insights into the demographic profile of this population.

The age distribution of respondents in this study, with over a third (36.2%) falling within the age group of over 45 years, is consistent with similar studies. For instance, Nagesh et al. (2022) in India reported that 53.4% of the respondents were over 41 years, with 33.4% aged between 41 – 50 years. Similarly, a study by Barth et al. (2019) in Brazil revealed that the age of the relatives in their study was 46.46 ± 1.10 years. Further, a study conducted by Onrust et al. (2022) in the Netherlands revealed that the median age of the family members was 47 (IQR 18), while the median age of patients was 62 (IQR 18). On the contrary, a study conducted in the United States found that 30.4% of family members of ICU patients were between 35-44 years old (Azoulay et al., 2020). Similarly, a study in Portugal reported that 27.5% of family members of ICU patients were within the 35 – 44 age range (Lobato et al., 2023). Further, a study in India found that 76 (40.43%) family members were in the age group of 31–45 years with an average age of 36.71 years, which was a slightly higher age group (Renthlei et al., 2024).

The age distribution of respondents in this study may be attributed to the fact that many family members in this age group are likely to be the primary caregivers or decision-makers for their loved ones. This age group may also be more likely to have the financial and emotional resources to support their family members during a critical illness.

The study revealed that the significant majority (62.1%) of the respondents been female is consistent with studies that have shown that women are more likely to take on caregiving roles for their family members (Cameron et al., 2022). A study in the United Kingdom found that 65% of family members of ICU patients were female (Latour and Coombs, 2018), while a study in South Africa reported that most of caregivers of ICU patients were female (de Beer and Brysiewicz, 2019). The preponderance of female respondents in this study may be due to traditional gender roles, where women are often expected to take on caregiving responsibilities. Additionally, women may be more likely to be available to provide care due to their flexible work schedules or lack of employment outside the home.

The study indicated that 34.5% (20/58) of the respondents nursing their sibling admitted to the ICU is consistent with studies showing that siblings often take on caregiving roles (Yang et al., 2022). A study in the United States found that 31.4% of family members of ICU patients were siblings (Cameron et al., 2016), while a study in Portugal reported that 27.5% of caregivers of ICU patients were siblings (Lobato et al., 2023). In contrast, a study conducted in Switzerland by Beck et al. (2021) identified spouses and children as the primary caregivers for ICU patients. Additionally, research in Norway by Alfheim et al. (2019) emphasized the importance of spousal support in the ICU setting. The relatively high proportion of siblings among respondents may be attributed to the fact that siblings are often close in age and may share a strong emotional bond, leading them to take on caregiving roles. Moreover, siblings may be more likely to be available to provide care due to flexible schedules or a lack of other caregiving responsibilities.

5.3 Stress Levels among Family Members of Patients Admitted to the ICU

The study revealed that a significant proportion of respondents (79.3%) experienced high levels of perceived stress, while 20.7% reported low stress. The mean Perceived Stress Scale (PSS) score of 28.5 (± 7.21) further reinforces this conclusion, indicating a considerable degree of psychological distress within the study population.

These findings suggest that family members of ICU patients at PMH are particularly vulnerable to high levels of stress. This finding aligns with numerous studies highlighting the considerable psychological burden faced by family members of ICU patients (Davidson et al., 2022). A study by McAdam et al. (2020) found that more than half (57%) of family members had moderate to severe levels of traumatic stress, 80% had borderline symptoms of anxiety, and 70% had borderline symptoms of depression. More than 80% of family members had other physical and emotional symptoms, such as fatigue, sadness, and fear, and these were experienced at the moderate to severe levels of distress. A mixed-methods study reported that 65% of ICU family members exhibited symptoms of depression, anxiety, or posttraumatic stress during hospitalization, with 48% persisting at 90 days post-discharge (Harlan et al., 2020). Similarly, a scoping review of 22 studies noted that ICU family members globally experience moderate-to-severe psychological distress, driven by uncertainty about patient prognosis and abrupt caregiving responsibilities (Abdul-Halain et al., 2022). These parallels suggest universal stressors transcend geographical boundaries, including financial strain and fears of mortality (Abdul-Halain et al., 2022; Petrinec et al., 2024).

It is also important to acknowledge variability in stress levels. The fact that 20.7% of respondents reported low stress levels indicates that not all family members experience the ICU environment in the same way. Some researchers suggest that the severity of the patient's illness and the perceived threat to their life are primary drivers of family stress (Abdul-Halain et al., 2022). However, the specific percentage of family members experiencing high stress varies across studies, potentially due to methodological differences, cultural factors, and variations in ICU practices. For instance, a study conducted by Konwar et al. (2022) reported a lower prevalence of high stress among family members of ICU patients compared to the current study, with 54% experiencing high levels of anxiety, followed by moderate anxiety (31%) and the least (15%) having low levels of anxiety. They attributed this difference to the strong social support networks available to families. In Nigeria, Olabisi et al. (2020) found that the mean score of family members' stress levels was 8.7 (SD = 4.4), with 10% of family members experiencing stress. Meanwhile, Nagesh et al. (2019) found that 90% of participants in their study were moderately stressed, 8.83% were severely stressed, while only 1.66% reported low levels of perceived stress.

In contrast, Shinde et al. (2019) showed that a majority of participants (76%) recorded high perceived stress levels compared to the 4.47% in the current study. This difference may be partly due to the inclusion of other clinical areas, such as casualty, operating theatre, and trauma ward, in addition to the ICU, while the current study focused solely on the ICU. A study conducted in a European setting found lower levels of anxiety and depression among family members, potentially due to differences in healthcare systems, cultural norms, or the availability of support services (Lautrette et al., 2019). It is essential to consider the context-specific factors that may influence the experience of stress in ICU family members.

While the study highlights a concerning prevalence of high stress, the 20.7% of respondents reporting low stress deserves consideration. This may reflect individual differences in coping mechanisms, resilience, or access to social support. Further qualitative research could explore the factors contributing to lower stress levels in this subgroup, potentially informing interventions to promote resilience among all family members. Thus, the high prevalence of stress among family members of ICU patients at PMH underscores the urgent need for interventions to address their psychological needs.

5.4 Factors associated with stress levels among Family Members of Patients Admitted to the ICU

5.4.1 Influence of Problem-Focused Coping on the Stress Levels among Family Members of Patients Admitted to the ICU

The study demonstrated a significant inverse relationship between problem-focused coping strategies and stress levels ($p = 0.037$). Specifically, respondents who employed more adaptive problem-focused coping strategies reported lower stress levels. This finding is consistent with the broader literature on stress and coping, which emphasizes the benefits of actively addressing stressors (Stephenson and DeLongis, 2020). Problem-focused coping involves strategies aimed at directly managing or resolving the stressful situation, such as seeking information, actively planning, and taking concrete steps to improve the situation (Folkman, 2020).

A study by Olabisi et al. (2020) similarly found that family members who employed problem-focused coping strategies experienced lower levels of anxiety and depression compared to those who used emotion-focused coping strategies. Likewise, a study by Petrinec et al. (2024) discovered that problem-focused coping was associated with reduced symptoms of post-traumatic stress disorder (PTSD) among family members of ICU patients. The use of problem-focused coping strategies may be particularly beneficial in the ICU setting, where family members are often faced with complex and uncertain situations (Kydonaki et al., 2020). By employing problem-focused coping, family members can take an active role in addressing the challenges they face, which can enhance their sense of control and reduce feelings of helplessness (Taylor, 2021). Additionally, problem-focused coping may help family members reframe their experience in a more positive light, which can lead to increased resilience and post-traumatic growth (Kashyap and Hussain, 2018).

However, there are instances where problem-focused coping may not always be effective or appropriate. If the stressful situation is uncontrollable or unchangeable, attempts at direct problem-solving may lead to frustration and increased stress (Jacobs and Carver, 2020). For example, if the patient's condition is deteriorating despite medical interventions, family members may experience increased distress if they focus solely on trying to "fix" the problem. In these situations, other coping strategies, such as emotion-focused coping, may be more beneficial. Similarly, a study by Davidson et al. (2022) discovered that problem-focused coping was not a significant predictor of stress levels among family members of ICU patients. One possible explanation for these inconsistent findings is that problem-focused coping may be more effective in certain situations or among specific populations. For instance, a study by Frota et al. (2021) found that problem-focused coping was more effective in reducing stress levels among family members of ICU patients who were experiencing high levels of uncertainty and unpredictability. Furthermore, the effectiveness of problem-focused coping may be influenced by cultural factors and individual preferences (Aldwin et al., 2021). Some individuals may be more inclined to seek information and actively engage in problem-solving, while others may prefer to rely on other coping mechanisms. Therefore, culturally sensitive interventions should consider individual preferences when promoting problem-focused coping strategies.

5.4.2 Influence of Emotion-Focused Coping on the Stress Levels among Family Members of Patients Admitted to ICU

Contrary to problem-focused coping, the study found no significant relationship between emotion-focused coping strategies and stress levels ($p = 0.571$). Some studies reveal that some forms of emotion-focused coping can be maladaptive. For instance, denial, self-blame, or excessive emotional venting may exacerbate stress and hinder effective coping (Jacobs and Carver, 2020). Similarly, a study by McAdam et al. (2020) found that emotion-focused coping was not a significant predictor of stress levels among family caregivers of ICU patients, suggesting that other coping strategies, such as problem-focused coping, may be more effective in reducing stress levels. On the contrary, published research explains that emotion-focused coping strategies involve regulating emotional responses to the stressor, such as seeking emotional support, reframing the situation, or accepting the situation (Folkman, 2020).

Research also suggests that adaptive emotion-focused strategies, such as seeking social support, acceptance, and religiosity, are consistently linked to lower stress levels and are a critical component of coping with stressful events (Ford and Gross, 2019). In a longitudinal study by Alfheim et al. (2019) revealed that family members who actively seek emotional support from friends, family, or healthcare professionals experience lower levels of anxiety and depression in the ICU setting. Similarly, reframing the situation in a more positive light, such as focusing on the patient's strengths or finding meaning in the experience, can reduce emotional distress (Park, 2020). A study by Aydogan et al. (2022) found that caregivers who employed adaptive emotion-focused coping strategies reported lower levels of stress, anxiety, and depression, and higher levels of quality of life compared to those who used maladaptive coping strategies.

A 2019 integrative review found that self-distraction and emotional support-seeking buffered against traumatic stress symptoms, whereas avoidant coping exacerbated distress (Rückholdt et al., 2019). Similarly, a mixed-methods study by Harlan et al. (2020) reported that 65% of ICU families used problem-solving and accommodation strategies, which correlated with reduced anxiety and depression over time. These findings resonate with the high prevalence of adaptive strategies observed in this study.

Therefore, it is important to distinguish between adaptive and maladaptive emotion-focused coping strategies. The results from this study showed that 93.1% of participants employed adaptive emotion-focused coping strategies, further cementing the importance of this coping mechanism. A study by Gupta et al. (2019) suggested that individuals who primarily used emotion-focused coping were more likely to experience chronic stress compared to those who employed a combination of emotion and problem-focused approaches. Furthermore, research by Kalke et al. (2021) on uncertainty in health suggests that some individuals may prefer to seek information and actively engage with the medical team, which can be considered a form of problem-focused coping, even in the ICU setting. Moreover, a study by Johnson et al. (2022) suggests that family members who perceived a higher level of control over the care of their loved ones experienced less psychological distress. This perception of control may foster the implementation of problem-focused coping strategies.

The predominance of adaptive emotion-focused coping in the present study population, along with its inverse relation to stress, could be interpreted as a potential cultural tendency in Botswana to prioritise emotional regulation in highly stressful and uncertain situations, where influence over the direct medical outcome is limited. Additionally, the effectiveness of emotion-focused coping strategies may depend on the individual's personality and the specific context of the stressful situation (Aldwin et al., 2021). Some individuals may be more comfortable expressing their emotions and seeking support, while others may prefer to cope internally. Therefore, interventions aimed at promoting emotion-focused coping should be tailored to the individual's needs and preferences.

5.4.3 Influence of Avoidant Coping on the Stress Levels among Family Members of Patients Admitted to ICU

In this study, avoidant coping did not emerge as a significant predictor of stress levels ($p = 0.669$). This finding is somewhat surprising, as avoidant coping strategies are often considered to be maladaptive and associated with increased stress. Avoidant coping involves efforts to escape or avoid the stressful situation, such as disengagement, denial, or substance use (Folkman, 2020). The findings from this study showed that 79% of family members of ICU patients employed adaptive avoidant coping strategies. Adaptive avoidant coping strategies may be more beneficial in certain situations. For

example, in the immediate aftermath of a traumatic event, temporary disengagement may allow individuals to gather their resources and cope more effectively in the long term (Schütz and Baumeister, 2019). Adaptive avoidant strategies, such as deliberate emotional distancing or focusing on practical tasks, may temporarily reduce acute stress. A study by Harlan et al. (2020) noted that families who engaged in self-distraction or task-oriented avoidance experienced lower immediate psychological distress, particularly in high-uncertainty scenarios. This aligns with findings from Botswana, where families prioritised communal responsibilities (e.g., caregiving for other dependents) to compartmentalise stress.

However, prolonged or excessive reliance on avoidant coping strategies is generally considered to be detrimental to psychological well-being (Jacobs and Carver, 2020). Research has shown that individuals who frequently use avoidant coping strategies are at increased risk for anxiety, depression, and other mental health problems (Weigold et al., 2024). This is further complemented by the increased likelihood of substance abuse (Khantzian, 2018). A longitudinal study of ICU decision-makers by Petrinc et al. (2024) revealed that avoidant coping mediated a 50% increase in PTSD symptom severity, particularly after patient death. Avoidant strategies often amplify distress by prolonging unresolved grief. Families who avoided discussing prognosis exhibited 35% higher anxiety levels at 90-day follow-ups, as unresolved fears perpetuated psychological strain (Harlan et al., 2020; Rückholdt et al., 2019). This mirrors the 6.9% of respondents in this study who reported maladaptive strategies, underscoring the need for targeted interventions.

The non-significant finding in this study may be due to several factors. It's possible that the specific measures used to assess avoidant coping did not capture the full range of avoidant behaviours, or that the sample size was not large enough to detect a significant effect. Additionally, the cultural context may influence the use and effectiveness of avoidant coping strategies. Future research is needed to further explore the relationship between avoidant coping and stress levels among family members of ICU patients in Botswana.

5.4.4 Sociodemographic and Patient-Related Characteristics Associated with Stress Levels among Family Members of Patients Admitted to the ICU

This section discusses these factors in light of existing literature, contrasting and supporting the results through evidence from global studies. The study revealed that age, gender, relationship, length of ICU admission, reason for ICU admission, and mechanical ventilation status were not found to be significant predictors of stress levels in this study. These findings require careful consideration in light of existing research.

Literature has reported that older caregivers often face compounded stressors due to pre-existing health burdens, financial responsibilities, or emotional exhaustion (Naef et al., 2021; Rückholdt et al., 2019). For instance, a Swiss study by Naef et al. (2021) reported that family members of younger ICU patients exhibited higher depression levels, suggesting that age-related dynamics whether of the patient or caregiver interact complexly with stress outcomes. A study by Midega et al. (2019) found that older relatives reported higher levels of anxiety and depression compared to younger relatives. Similarly, a study by Davidson et al. (2022) on psychological morbidity in ICU relatives, found that older age was a predictor of post-traumatic stress symptoms. These contrasting findings may be explained by the likelihood that older individuals may have more comorbidities and reduced resilience, making it more difficult to cope with the stress of critical illness in a loved one (Mougias et al., 2024). Older individuals may also be more likely to have experienced previous losses and may be more acutely aware of the potential for mortality in the ICU environment.

However, similar to the current study results, a study by Köse et al. (2022) found no significant correlation between age and anxiety or depression in relatives of ICU patients. Moreover, a systematic review by Johnson et al. (2019) on psychological sequelae in family caregivers of critically ill ICU patients, reported that younger relatives had higher levels of distress and unmet needs. These conflicting results could be attributed to differences in study populations, cultural contexts, or the specific tools used to measure stress. Younger relatives may experience more stress due to factors such as financial strain, job insecurity, and childcare responsibilities, which are often greater burdens for younger age groups (Haines et al., 2024).

Additionally, this discrepancy underscores the need for context-specific analyses, as cultural and socioeconomic factors in Botswana may amplify age-related stressors differently than in high-income settings.

Further, contrary to expectations, gender, relationship, length of ICU admission, reason for admission, and mechanical ventilation status did not significantly predict stress. This contrasts with studies where female caregivers, particularly mothers or spouses, reported higher anxiety due to societal caregiving expectations (Harlan et al., 2020; Rückholdt et al., 2019). Some have found that women often take on a greater share of caregiving responsibilities and are more likely to express their emotions openly, which can contribute to higher levels of reported stress (Kayaalp et al., 2021). The non-significant finding in this study could be due to the relatively small sample size or cultural factors influencing the reporting of stress among men and women. Further, a study by Cox et al. (2019) revealed that 62% of female family members exhibited moderate-to-severe anxiety, attributed to gendered caregiving norms.

Studies emphasize that spouses or primary decision-makers often endure prolonged emotional strain due to their central role in care coordination and existential uncertainty about patient outcomes (Naef et al., 2021; Rückholdt et al., 2019). For example, a Norwegian study reported that spouses of ICU patients scored lower on satisfaction with decision-making processes, exacerbating their psychological distress (Haave et al., 2021). A study by Nosaka et al. (2024) concluded that spouses and parents consistently reported the highest levels of psychological distress. This is likely because these individuals often have the most significant emotional investment in the patient's well-being and may have long-term responsibilities for their care (Hudson et al., 2020). Other studies have found that more distant relatives, such as aunts, uncles, or cousins, may be more supportive and less emotionally overwhelmed, providing a valuable source of practical assistance (Secunda and Kruser, 2022). Additionally, cultural norms and family dynamics can influence the extent to which different family members feel responsible for the patient's care, which can then affect their stress levels (Hui et al., 2024). In some cultures, extended family members may play a larger role in caregiving than in others, which could lead to different patterns of stress among relatives (Alsharari, 2019). This suggests that relationship proximity may mediate stress through both emotional investment and access to coping resources.

The non-significance of mechanical ventilation aligns with a Swiss study, where patient survival, not treatment modality, was the primary driver of distress (Naef et al., 2021). However, other research argues that prolonged ventilator use intensifies family helplessness, particularly in low-resource settings with limited communication about prognosis (Fumis et al., 2024). The Botswana findings may reflect unique cultural resilience or underreported stressors due to study limitations.

5.5 Application of Study Results to the Transactional Model of Stress and Coping

The study's findings on stress and coping among ICU family members at Princess Marina Hospital (PMH) align with the Transactional Model of Stress and Coping (TMSC), which frames stress as arising from primary appraisal (threat perception) and moderated by secondary appraisal (coping resources). High stress, reported by 79.3% of respondents (mean PSS score = 28.5/40), reflects a primary appraisal of ICU admission as a severe threat, intensified by PMH's high mortality rates (50.7–60.5%, 2020–2022). Problem-focused coping, used adaptively by 77.6% (e.g., seeking information, engaging with staff), was significantly associated with stress levels ($p=0.037$), indicating its role in enhancing perceived control during secondary appraisal, though maladaptive forms (e.g., ineffective advocacy) likely exacerbate stress. Conversely, adaptive emotion-focused (93.1%, e.g., prayer) and avoidant coping (79%, e.g., distraction) showed no stress association, as they address emotional distress but not the ICU's uncontrollable stressors, such as uncertain patient outcomes. The absence of professional psychological support at PMH limits coping effectiveness, particularly in a high-stakes context where even adaptive strategies falter. Unlike high-income studies, this study's focus on PMH's resource-constrained setting highlights the need for interventions like nurse-led counselling to promote adaptive problem-focused coping, reducing reliance on maladaptive strategies and enhancing family resilience.

5.6 Implications to Critical Care Nursing

The findings highlight the urgent need for targeted interventions to support family well-being within the ICU setting. The implications of this study are far-reaching, impacting critical care nursing practice, administration, education, and research, with specific linkages to significant results.

5.6.1 Critical Care Nursing Practice

Nurses should prioritize teaching and reinforcing adaptive problem-focused strategies (e.g., goal-setting, collaborative decision-making, accessing ICU resources) to families. For example, provide structured guidance on how to advocate for the patient (e.g., asking targeted questions about care plans). Routinely screen family members for stress using validated tools (e.g., PSS-10) during ICU admission. For high-stress individuals: offer immediate emotional support and connect them to counselling or peer support groups. Assign a dedicated nurse liaison to address concerns and reduce prognosis uncertainty.

5.6.2 Critical Care Nursing Administration

Administrators should implement standardized family support protocols, such as mandatory daily updates from ICU teams to reduce uncertainty, and designated family visitation hours with flexible access to promote engagement. Invest in training programs to equip nurses with skills to coach families in adaptive problem-focused coping (e.g., communication techniques, resource navigation). Ensure adequate nurse-to-family ratios and allocate resources (e.g., social workers, chaplains) to support all families, regardless of patient-specific variables.

5.6.3 Critical Care Nursing Education

Nurse educators should teach nursing students to assess and guide families in evidence-based problem-focused strategies (e.g., role-playing scenarios for family education). Train nurses to recognize culturally shaped coping preferences (e.g., collective decision-making, spiritual practices) and adapt interventions accordingly. Educate nurses to identify and gently redirect maladaptive avoidant behaviours (e.g., "Let's discuss ways to stay informed while also taking breaks").

5.6.4 Critical Care Nursing Research

Nurse researchers should conduct studies testing interventions that blend local cultural practices (e.g., communal support circles) with problem-focused strategies. Track families post-discharge to assess how coping strategies influence long-term psychological outcomes (e.g., PTSD, resilience).

Test the efficacy of nurse-led workshops teaching problem-focused skills (e.g., "ICU Family Coping Toolkits") on reducing stress. Further, research how ICU policies (e.g., transparency in prognosis communication) can reduce perceived uncontrollability and enhance coping efficacy.

5.7 Study Strengths and Limitations

5.7.1 Study Strengths

The strengths of this study include that the study provides valuable insights into the experiences of family members of ICU patients in Botswana, a context that has received limited research attention. The use of standardised and validated tools for measuring stress and coping strategies enhances the reliability of the findings and enables meaningful comparison with similar studies conducted in other regions. Finally, the study's results have important implications for practice, policy, and future research, highlighting the need for healthcare professionals and policymakers to prioritise the emotional well-being of family members of ICU patients.

5.7.2 Study Limitation

This study was not without limitations. The relatively small sample size may limit the generalizability of the findings to other ICU settings; however, this was addressed through the use of census sampling, which included all eligible family members of ICU patients during the study period. Additionally, reliance on self-reported measures of stress and coping strategies introduces potential for recall and social desirability biases. To mitigate this, data collection was conducted in a private and confidential setting, with assurances of anonymity to promote honest responses. Lastly, the study did not examine the long-term psychological effects of stress on family members, such as persistent anxiety or post-traumatic symptoms. While this was beyond the scope of the cross-sectional design, it highlights the need for future longitudinal research to explore these outcomes over time.

5.8 Conclusion

This study provides critical insights into the psychological burden faced by family members of ICU patients at Princess Marina Hospital (PMH) in Botswana, revealing that 79.3% experienced high stress (mean PSS score = 28.5/40), driven by primary appraisal of ICU admission as a severe threat, amplified by high mortality rates (50.7–60.5%, 2020–2022) and stressors like poor prognosis and limited communication. Employing reliable methods (validated PSS-10 and COPE scales, pilot-tested protocols), the study found that problem-focused coping, used adaptively by 77.6% (e.g., seeking information), was the only strategy significantly associated with stress levels ($p=0.037$), though maladaptive forms (e.g., futile advocacy) worsened stress, while emotion-focused (93.1%) and avoidant coping (79%) showed no impact. Aligned with the Transactional Model of Stress and Coping, these findings underscore that stress persists due to the ICU's uncontrollable context and PMH's lack of professional psychological support. Unlike high-income studies, this research uniquely examines a resource-constrained African ICU, highlighting the urgent need for culturally sensitive interventions like nurse-led counselling and family-centred care to foster adaptive coping and reduce reliance on maladaptive strategies. By addressing mental health disparities, this study advances SDG 3 (Good Health and Well-Being) and SDG 10 (Reduced Inequalities), informing systemic reforms to enhance family resilience in Botswana and similar settings.

5.9 Recommendations

Based on the study results, the following recommendations are proposed to address stress and coping challenges among family members of ICU patients at Princess Marina Hospital and similar settings:

5.9.1 For Clinical Practice (Administrators and ICU nursing staff)

1. Prioritize problem-focused coping interventions. Train ICU nurses to coach families in adaptive problem-focused strategies (e.g., collaborative decision-making, accessing care plans, navigating hospital resources). Structured workshops or toolkits could help families engage proactively.
2. Implement routine stress screening. Integrate validated stress assessments (e.g., PSS-10) during ICU admission to identify high-risk families and connect them to counselling, peer support groups, or social workers.
3. Enhance family-centred communication. Assign nurse liaisons to provide daily updates, clarify medical jargon, and involve families in care discussions to reduce feelings of helplessness.

5.9.2 Policy Formulation (Botswana Ministry of Health and Stakeholders)

4. Develop National ICU family support guidelines. Mandate standardized psychosocial support protocols for all ICUs, including: Flexible visitation policies, access to mental health professionals (e.g., psychologists, chaplains), and culturally tailored resources (e.g., integrating Botswana's communal values into coping support).
5. Fund staff training programs. Allocate resources to train ICU staff in evidence-based coping strategy coaching and cultural competence, emphasizing Botswana's context (e.g., communal decision-making norms).
6. Establish family resource centres. Create hospital-based hubs offering coping guides, financial aid navigation, and spiritual care, particularly for low-income families.

5.9.3 Future Research

7. Expand studies on culturally adapted coping interventions. Investigate how local practices (e.g., Botswana's emphasis on collective coping) can be combined with problem-focused strategies to enhance efficacy.

8. Conduct longitudinal and multi-centre studies. Track stress and coping outcomes post-discharge across diverse regions to identify long-term impacts (e.g., PTSD, resilience) and regional disparities.
9. Explore the role of perceived control. Use mixed methods to examine how families perceive control (e.g., over prognosis) and test interventions to enhance empowerment (e.g., transparent prognosis communication).

5.10 Plan for Dissemination and Utilisation of Results

The results of this study will be disseminated through various channels to reach a wide audience, including healthcare professionals, researchers, policymakers, and the general public. The dissemination plan includes presenting the findings at the UNZA School of Nursing Graduate Proposal Presentation Forum, where academic peers and faculty can engage in scholarly dialogue and offer feedback. Publication in peer-reviewed journals such as the *Medical Journal of Zambia* will enable researchers and clinicians to reference and build upon the findings in future studies and evidence-based practice. Submission of bound copies to the libraries of the University of Zambia and Princess Marina Hospital (PMH) ensures institutional access to the study for academic and clinical staff. Sharing an executive summary with the ICU staff at PMH will allow frontline healthcare providers to apply the insights to improve family-centered care, identify stressors in the ICU environment, and advocate for psychosocial support services. Policymakers can use the findings to inform decisions related to resource allocation and development of support programs for families of critically ill patients, while the general public benefits through greater awareness of the emotional challenges faced in ICU settings.

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APPENDICES

Appendix I: Participant Information Sheet

UNIVERSITY OF ZAMBIA
SCHOOL OF NURSING SCIENCES
DEPARTMENT OF BASIC AND CLINICAL NURSING SCIENCES
PARTICIPANT INFORMATION SHEET

Title of the proposed study: Stress and coping strategies among family members of patients admitted to the Intensive Care Unit at Princess Marina Hospital, Gaborone, Botswana

Investigator:

Name: Tlhompho Tshwaphe

Institution: University of Zambia

Contacts: TTshwaphe@gmail.com

+260 765449611/ +267 74 834 819

Background and rationale for the study: The medical condition of patients admitted to ICUs as well as the use of treatment interventions like mechanical ventilation may trigger stress response symptoms in patients' relatives which can hinder relatives' ability to make medical decisions and support recovery. Additionally, unmanaged high-stress levels during the admission of a loved one can lead to more serious psychological disorders like PTSD and depression. Therefore, stress management including psychological counselling and the use of effective coping strategies is essential for ICU relatives. Unfortunately, in Botswana, limited studies are exploring the psychological distress experienced by ICU relatives and the coping strategies they use hindering the implementation of effective interventions and support systems for relatives of ICU patients. This study will help to close that gap.

Purpose: The main aim of this study is to assess stress and coping strategies among family members of patients admitted to the ICU of Princess Marina Hospital, Gaborone, Botswana. Determining the stress level and making an association with the coping strategies commonly used will generate insights that inform targeted interventions and

support systems. While studies have been made in in other regions, it is important to get information from the local population getting assistance at PMH so that the interventions are best tailored to their specific needs which may be different from those in other regions. Hence the need to involve relatives currently having a loved one in PHM ICU.

Procedures: Participants of the study will be in an interview with the researcher where the questions asked will be mainly to determine participants' level of stress and the coping strategies they are using. The researcher will provide clear instructions on how each question should be responded to and clarity on any item will be made as the interview continues. The willing participants will be required to sign an informed consent before the interview and to provide their most honest answers during the interview.

Who will participate in the study? The intended participants of this study are all adult relatives (18 years old and above) of patients admitted to the ICU of PMH for at least 48 hours. Data will be collected from them only once in an interview estimated to last at most 45 minutes.

Risks/Discomforts: The study may cause emotional distress to the participants, the distress is anticipated to be manageable but, in any case, the participants will be offered counselling from the hospital psychology department.

Benefits: Conducting this study in PMH will help identify effective coping strategies and their influencing factors which can lead to resources and programs empowering family members to manage stress and maintain well-being during admission of a loved one. Additionally, healthcare providers and policymakers can benefit from a comprehensive understanding of the needs and experiences of these family members. This knowledge can guide the development of family-centred care practices and policies, improving outcomes and reducing healthcare costs.

Alternatives: Participation in the study is not mandatory and the relatives who agree to join the study have the option of not answering any question they are not comfortable with and they will be allowed to withdraw from the interview at any time if they so wish.

Compensation/Reimbursement for participation in the study: No compensation/reimbursement for participants as the study is purely for education purposes. However, participation in this study can result in extra visits to the hospital, where such happens the participant will be compensated for their time with a transport allowance of a minimum of P30.00.

Questions: In an event that participants have study related questions, they can reach the investigator on the contacts provided above.

Questions about participants' rights: Participants who have questions about their rights as research participants can have their queries addressed by the investigator and if not satisfied take it up with the PMH Institutional Research Board.

Statement of voluntariness: Participation in the proposed study is voluntary and participants may join on their own free will. Participants also have a right to withdraw from the study at any time without penalty.

Confidentiality: The results of this study will be kept strictly confidential and used only for research purposes. Participant identity will be concealed in as far as the law allows. Their names will not appear anywhere on the coded forms with the information. Paper and computer records will be kept under lock and key and with password protection respectively.

The interviewer has discussed this information with me and offered to answer my questions. For any further questions, I may contact the Chairperson, UNZABREC on the following details:

Telephone: +260977925304 Ridgeway Campus

Telegrams: UNZA, LUSAKA P.O. Box 50110

Telex: UNZALU ZA 44370 Lusaka, Zambia

Fax: + 260-1-250753

E-mail: unzarec@unza.zm

Appendix II: Informed Consent Form

UNIVERSITY OF ZAMBIA
SCHOOL OF NURSING SCIENCES
DEPARTMENT OF BASIC AND CLINICAL NURSING SCIENCES
STATEMENT OF CONSENT

..... has described to me what is going to be done, the risks, the benefits involved and my rights regarding this study. I understand that my decision to participate in this study will not alter my usual medical care. In the use of this information, my identity will be concealed. I am aware that I may withdraw at any time. I understand that by signing this form, I do not waive any of my legal rights but merely indicate that I have been informed about the research study in which I am voluntarily agreeing to participate. A copy of this form will be provided to me.

Name: Signature of participant
.....Age.....

Date (DD/MM/YY)

Name of Witness..... Signature of
Witness.....

Date (DD/MM/YY)

Name..... Signature of Interviewer
.....

Date (DD/MM/YY)

If you have any further questions, please contact the University of Zambia Biomedical Research Ethics Committee.

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Assurance No. FWA00000338

IRB00001131 of IOR G0000774

Appendix III: Data Collection Tool

INTERVIEW SCHEDULE

Section A: Demographic Information

1. What is your age?

- a) 18-24 years
- b) 25-34 years
- c) 35-44 years
- d) 45-54 years
- e) 55-64 years
- f) 65 years or above

2. What is your gender?

- a) Male
- b) Female

3. What is your relationship to the patient in the ICU?

- a) Spouse/Partner
- b) Parent
- c) Child
- d) Sibling

4. How long has your family member been in the ICU?

- a) 1-3 days
- b) 4-7 days
- c) More than 7 days

Section B: Perceived Stress Scale (PSS-10)

Instructions: The questions in this scale ask you about your feelings and thoughts during period of admission of your relative. In each case, please indicate how often you felt or thought a certain way.

a) Never b) Almost Never c) Sometimes d) Fairly Often e) Very Often

		A	b	c	d	e
5	Since admission of your loved one, how often have you been upset because of something that happened unexpectedly?					
6	Since admission of your loved one, how often have you felt that you were unable to control the important things in your life?					
7	Since admission of your loved one, how often have you felt nervous and "stressed"?					
8	Since admission of your loved one, how often have you felt confident about your ability to handle your personal problems?					
9	Since admission of your loved one, how often have you felt that things were going your way?					
10	Since admission of your loved one, how often have you found that you could not cope with all the things that you had to do?					
11	Since admission of your loved one, how often have you been able to control irritations in your life?					
12	Since admission of your loved one, how often have you felt that you were on top of things?					
13	Since admission of your loved one, how often have you been angered because of things that were outside of your control?					
14	Since admission of your loved one, how often have you felt difficulties were piling up so high that you could not overcome them?					

Section C: Brief COPE Inventory

Instructions: These items deal with ways you've been coping with the stress in your life since your family member was admitted to the ICU. There are many ways to try to deal with problems. These items ask what you have been doing to cope with this one. Each item says something about a particular way of coping. I want to know to what extent you have been doing what the item says. How much or how frequently? Do not answer on the basis of whether it seems to be working or not just whether or not you're doing it. Use these response choices. Try to rate each item separately in your mind from the others. Make your answers as true FOR YOU as you can.

1 = I haven't been doing this at all 2 = I have been doing this a little bit 3 = I have been doing this a medium amount 4 = I have been doing this a lot

15. I have been turning to work or other activities to take my mind off things. 1 2 3 4
16. I have been concentrating my efforts on doing something about the situation I'm in. 1 2 3 4
17. I have been saying to myself "this isn't real." 1 2 3 4
18. I have been using alcohol or other drugs to make myself feel better. 1 2 3 4
19. I have been getting emotional support from others. 1 2 3 4
20. I have been giving up trying to deal with it. 1 2 3 4
21. I have been taking action to try to make the situation better. 1 2 3 4
22. I have been refusing to believe that it has happened. 1 2 3 4
23. I have been saying things to let my unpleasant feelings escape. 1 2 3 4
24. I have been getting help and advice from other people. 1 2 3 4
25. I have been using alcohol or other drugs to help me get through it. 1 2 3 4
26. I have been trying to see it in a different light, to make it seem more positive. 1 2 3 4
27. I have been criticizing myself. 1 2 3 4
28. I have been trying to come up with a strategy about what to do. 1 2 3 4
29. I have been getting comfort and understanding from someone. 1 2 3 4
30. I have been giving up the attempt to cope. 1 2 3 4
31. I have been looking for something good in what is happening. 1 2 3 4
32. I have been making jokes about it. 1 2 3 4
33. I have been doing something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping, or shopping. 1 2 3 4
34. I have been accepting the reality of the fact that it has happened. 1 2 3 4
35. I have been expressing my negative feelings. 1 2 3 4

- 36. I have been trying to find comfort in my religion or spiritual beliefs. 1 2 3 4
- 37. I have been trying to get advice or help from other people about what to do. 1
2 3 4
- 38. I have been learning to live with it. 1 2 3 4
- 39. I have been thinking hard about what steps to take. 1 2 3 4
- 40. I have been blaming myself for things that happened. 1 2 3 4
- 41. I have been praying or meditating. 1 2 3 4
- 42. I have been making fun of the situation. 1 2 3 4

Thank you for your participation and time!!

Appendix IV: Informed Consent Form In Setswana

Ministry of Health



Republic of Botswana

FOMO YA TETLELELO

Setlhogo sa patlisiso

Kgatelelo ya maikutlo le ditsela tsa go lwantsha seemo se, mo malwapeng a balwetse ba ba robaditsweng mo lekalaneng la balwetse ba ba gateletsweng thata(ICU), ko kokelong ya Princess Marina, Gaborone, Botswana.

Matseno

Go nna le molwetse yo o robaditsweng mo lekalaneng la balwetse ba ba gateletsweng thata, (ICU), go batla taolo/thuso e e tsitsibaneng, e e tlhokanang le kalafi e marara jaaka go hema ka mochine, mo ka bo gone, ga mmogo le seemo sa molwetse, go ka kukang maikutlo mo go wena jaaka lesika la molwetse. Ka jalo, go ka ama bokgoni ja gago, go tsaya ditshwetso tse di maleba ka kalafi ya molwetse le go mo tshegetsa kgotsa go mo ema nokeng mo pholong ya gagwe. Fa go ka diragala gore ka nako e molwetse a robaditsweng ka yone, maikutlo a ko godimo a seka a laolesege, go ka tsosa bothata ja tlhologanyo jaaka “Post Traumatic Stress Disorder” le go ngodiega mo moweng(depression). Ka jalo, go laola kgatelelo ya maikutlo mo go akaretsang tshidilo maikutlo le mananeo a mangwe, go bothokwa mo masikeng a balwetse ba ba robaditsweng ko “ICU”. Ka go tlhoka lesego, mo Botswana, ga gona thulaganyo e nitameng, ya go thusa masika a balwetse ba lekalana la “ICU” go lwantshanya le kgatelelo maikutlo e ba itemogelang.

Maikaelelo a patlisiso

Maikaelelo a patlisiso e, ke go tlhologanya mananeo a go thusa go lwantshanya le kgatelelo maikutlo ya ba malwapa a balwetse ba ba robaditsweng mo “ICU” ko kokelong ya Princess Marina (PMH) mo Gaborone, Botswana. Go sekaseka selekanyo sa kgatelelo maikutlo, le ka fa batho ba lwantshanyang le seemo seo ka teng, re solofela go tla ka mananeo a botoka a go thusa le go tshegetsa ba malwapa mo Botswana go ya ka matlhoki a bone. Ka gore kgaolo nngwe le nngwe e ya farologana, re tshwanetse ra kokoanya tshedimoso go tswa mo go ba masika, gore re tle ka tlharabololo e e ka berekelang baagi bangwe le bangwe botoka go ya ka metsana ya bone.

Ba ba tshwanelwang ke go tsaya karabo

Patlisiso e, e ka tsenelelwa ke masika a dingwaga tse di fetang lesome le boferabobedi (18 years and older), ba na le balwetse ba ba kileng ba robadiwa ko lekalaneng la tlhokomelo e kgolo ya balwetse ba ba gateletsweng (ICU), ko kokelong ya Princess Marina, ba robaditswe lebaka la di

oura tse masome a mane le boferabobedi (48 hours). Patlisiso e, e tla dirwa ka potsolotso ya ga ngwefela e e ka tsayang metsotso e e sa feteng masome a mane le botlhano.

Tsamaiso ya patlisiso

Patlisiso e, ga e na ditekeletso dipe. Jaaka motsaya-karolo, o tla tsenelela potsolotso e mmatlisisi a tla botsang dipotso go leka go tlhaloganya seemo sa kgatelelo maikutlo sa gago le gore o dirisa maano a fe go lwantsha seemo seo. Mmatlisisi o tla go thusa go araba dipotso le go go tlhalosetsa fa go tlhokega, potsolotso e tswelotse. Pele ga potsolotso, o tla kopiwa go saena fomo ya tetelelo go supa gore o dumalane go tsaya karolo. Potsolotso e tla nna gangwefela mme e tseye metsotso e e sa feteng masome a mane le botlhano.

Tsamaiso e nngwe

Go tsaya karolo, ke ka boitlhaopi. Fa o dumela go tsaya karolo, o ka tlola potso e e sa go jeseng diwelang, gape o gololesegile go emisa potsolotso ka nako nngwe le nngwe.

Ditlhatlhobo tsa madi

Ga o kitla o tsewa madi mo patlisisong e.

Diphatsa/dikotsi

Patlisiso e, e ka nna ya baka go kukega maikutlo, mme e le mo go ka laolesegang. Fa go ka diragala, o tla thusiwa ka tshidilo maikutlo, ke ba lephata la tshidilo-tlhaloganyo (psychology department) ko kokelong.

Dikgobalo tse di ka diragalang ka nako ya patlisiso

Patlisiso e, ga e kake ya baka dikgobalo dipe, mme ga go ka nna le dikgobalo, mmatlisisi o tla tsibogela seo.

Mosola wa patlisiso

Ka go dira patlisiso e ko kokelong ya Princess Marina, re leka go lemoga mekgwa e botoka ya go lwantshanya le kgatelelo maikutlo le mabaka a a tlotlhelletsang. Mo go ka tlisa ditlamelo le mananeo a botoka go thus aba malwapa go laola kgatelelo ya maikutlo, le go nna le botsogo jo bo siameng ka nako ya fa wa lesika a robaditswe. Ba botsogo le ba dira melao, ba ka dirisa tshedimoso e go tokafatsa ditlhokomelo tsa kwa malwapeng ebile go ka fokotsa ditlhwatlhwa tsa botsogo.

Tshedimosetso e ntsha

Fa go ka nna le maitemogelo a masha mo patlisisong e, mo go amanang le tumelano ya gago ya go tsaya karolo, ga go na go nna le ditshenyegelo dipe mo go wena.

Ditshenyegelo le dituelo

Ga gona dituelo dipe tsa go tsaya karolo mo patlisisong e, ka gore e direletswe go ruta. Fa go ka diragala gore o kopiwe go etela kokelo, o tla fiwa madi a sepalamo a selakanyo sa P30.00 go duelela nako ya gago.

Go ithaopela go tsaya karolo

Go tsaya karolo mo patlisisong e, ke ka boitlhaopi. Fa o tsaya tshwetso ya go emisa go tsaya karolo, ga go kitla go nna le katlholo kgotsa tatlhegelo epe mo go tse di go lebaneng.

Tshwanelo ya go ikgogela morago

Fa o dumela go tsaya karolo, o ka tlola dipotso tse o sa phuthologang ka tsone. O gololesegile go emisa potsolotso ka nako nngwe le nngwe go sena katlholo epe.

Pabalesego, go sa itsiwe le sephiri:

Maduo a patlisiso e, a tla nna sephiri mme gape a dirisiwe fela mo go tsa patlo maikutlo. Leina la gago le tla babalesega go yeng ka fa molaong, ebile ga le kake la kwalwa gope.

Tiriso ya tshedimose mo isagong

Go na le kgonagalo ya go dirisa tshedimoso e mo isagong, e dirisiwa mo polokelong ya dikitso, kana mo di akhaefeng tsa dipatlisiso, kgotsa mo dikgatisong tsa dithuto.

O ka ikgolaganya le mang

Fa o na le dipotso mabapi le patlisiso e, o ka ikgolaganya le mmatlisisi yo o mogolo wa maina a a latelang:

Leina: Tlhomphe Tshwaphe

Mogala wa letheke: +267 74 834 819

E-mail: TTshwaphe@gmail.com

Fa o batla go itse ka ditshwanelo tsa gago, o ka ikgolaganya le ba Princess Marina Hospital Institutional Research Board.

MAIKANO A TETLELELO

..... o ntlhaloseditse gore go ya go diragala eng, diphatsa, le mesola ya go tsaya karolo, ga mmogo le ditshwanelo tsa me tse di amanang le patlisiso e. Ke tlhaloganya gore go tsaya karolo game, ga go kitla go ama dithuso tsa me tsa bongaka. Leina la me ga le kitla le itsisiwe ope mo tirisong ya tshedimose tse e. Ke itse gore nka emisa go tsaya karolo ka nako nngwe le nngwe. Ke tlhaloganya gore ka go saena fomo e, ga ke latlhegelwe ke ditshwanelo tsame tsa semolao, mme ke supa fela gore ke tsibositswe ka patlisiso e ke dumetseng go tsaya karolo mo go yone. Ke tla fiwa moriti wa fomo e.

Leina.....

Monwana wa mo tsaya karolo.....Dingwaga.....

Letsatsi (letsatsi/kgwedi/Ngwaga)

Appendix V: Data Collection tool In Setswana

University of Zambia

School of Nursing Sciences

Department of Basic and Clinical Nursing Sciences

LENANELO LA POTSOLOTSO

Karolo A: Tshedimoso ya palo batho

1. Dingwaga tsa gago di kafe?

- a) 18-24 []
- b) 25-34 []
- c) 35-44 []
- d) 45-54 []
- e) 55-64 []
- f) Ko godimo ga 65 []

2. Tlhophha bong jag ago

- a) Monna []
- b) Mosadi []

3. O sikana jang le molwetse yo o robaditsweng ko ICU?

- a) Re nyalane/bakapelo []
 - b) Motsadi []
 - c) Ngwana []
 - d) Motsalwanane []
 - e) Lesika le lengwe (Tlhalosa)
-
-
-

4. Lesika la gago le na le lebaka le le kafe le robaditswe mo ICU?

- a) Ko tlase ga di oura tse di masome a mabedi le bone []
- b) Malatsi a 1 – 3 []
- c) Malatsi a 4 – 7 []
- d) Go feta malatsi a supa []

Karolo B

Sekale sa kgatelelo ya maikutlo (Perceived Stress Scale (PSS-10)).

Ditaelo: Dipotso tse di mo sekaleng se, di botsa ka maikutlo a gago le dikakanyo tsa gago, ka nako ya fa lesika la gago le robaditswe. Mo kgannyeng nngwe le nngwe, supa gore o ne o ikutlwa kgotsa o akanya jang, ka selekanyo se se kafe, kgotsa ga kae.

Tlhaloso ya dikarabo a, b, c, d, e

- a) Le goka/Le eseng (Never)
- b) Ga se gantsi (Almost Never)
- c) Nako nngwe (Sometimes)
- d) Ga ngwe le gape (Fairly often)
- e) Ga ntsi thata (Very often)

		a	b	c	d	e
5	Mo kgweding e fetileng, o kgopisegile ga kae, ka sengwe se se diragetseng o sa solofela?					
6	Mo kgweding e fetileng, ke ga kafe o ikutlwa jaaka ekete o palelwa ke go laola dilo tse di botlhokwa tsa botshelo ja gagwe?					
7	Mo kgweding e fetileng, ke ga kafe, o ikutlwa o sa wela sentle mo moweng ebile o gateletswe ke maikutlo(stress)?					
8	Mo kgweding e fetileng, ke ga kafe o ikutlwa o tshephile bokgoni jwa gago, go ka rarabolola mathata a gago?					
9	Mo kgweding e fetileng, ke ga kafe o bona jaaka ekete dilo di tsamaya ka fa o batlang ka teng?					
10	Mo kgweding e fetileng, ke ga kafe o lemoga gore o ne o palelwa ke go emelana le dilo tse o neng o tshwanetse go di dira?					
11	Mo kgweding e fetileng, o kgonne ga kafe go laola dilo tse di tenang mo botshelong ja gago?					
12	Mo kgweding e fetileng, ke ga kafe o bona ekete dilo di mo taolong ya gago?					
13	Mo kgweding e fetileng, o kgopisegile ga kae, ka lebaka la dilo tse di seng mo taolong ya gago?					
14	Mo kgweding e fetileng, ke ga kae, o bona ekete dikgwetlho di a thatagana, mo o neng o palelwa ke go di fenywa?					

Karolo C. Tlhaloso e khutshwane ka boitshoko

Ditaelo: Tse di latelang, di amana le ka fa o ntseng o leka go lwantsha kgatelelo ya maikutlo, fa e sale leloko la lelwapa la gago le robadiwa mo lekalaneng la balwetse ba ba gateletsweng thata (ICU). Go na le ditsela tse dintsi tsa go leka go rarabola mathata. Tse di latelang, di botsa ka fa o ntseng o emelana kgotsa o itshokela seemo se. Karolo nngwe le nngwe e bua sengwe ka mokgwa mongwe wa go itshokela seemo. Ke batla go itse gore o dira tse di boletsweng go le kafe kgotsa mo selekanyong se se kafe le gore makgetlo a le kafe? O seka wa araba ka gore a go a bereka kgotsa ga go bereke, mme o arabe ka gore a o a dira se se builweng kgotsa ga o se dire. Tlhopha karabo mo go tse di latelang. Leka go lekanyetsa karolo nngwe le nngwe mo tlhaloganyong ya gago go farologana le tse dingwe. Leka go araba ka boammaruri jo o ka bo kgonang.

TLHALOSO YA DIKARABO

1 = Ke ntse ke sa dire se, gotlhelele (I haven't been doing this at all)

2 = Ke ntse ke dira se, go le gonnye, eseng thata) I have been doing this a little bit

3 = Ke ntse ke dira se, ka selekanyo se se fa gare/se se lekanetseng (I have been doing this a medium amount)

4 = Ke ntse ke dira se, ga ntsi thata. (I have been doing this a lot)

43. Ke ne ke tshabela mo mmerekong kgotsa mo ditirong tse dingwe, go ikgatholosa dilo.

1 2 3 4

44. Ke ntse ke leka ka bojotlhe ja me, go dira sengwe ka seemo se ke mo go sone.

1 2 3 4

45. Ke ntse ke ipolelela gore “se ga se nnete”. 1 2 3 4

46. Ke ntse ke dirisa nnotagi le diritibatsi go dira gore ke ikutlwe botoka/sentle. 1 2 3 4

47. Ke ntse ke bona tshegetso ya maikutlo mo go ba bangwe. 1 2 3 4

48. Ke ne ke ntse ke tlogela go leka go lebana le se. 1 2 3 4

49. Ke ntse ke tsaya kgato go leka go tokafatsa seemo. 1 2 3 4

50. Ke ntse ke gana go dumela gore go diragetse. 1 2 3 4

51. Ke ntse ke bua dilo go leka go ntsha maikutlo a sa itumediseng. 1 2 3 4

52. Ke ntse ke bona thuso le dikgakololo go tswa mo bathing ba bangwe. 1 2 3 4

53. Ke ne ke dirisa nnotagi le diritibatsi go nthusa go feta ka seemo se. 1 2 3 4
54. Ke ntse ke leka go leba seemo ka tsela e sele, go dira gore se lebege se siame. 1
2 3 4
55. Ke ntse ke ikgala. 1 2 3 4
56. Ke ntse ke leka go loga maano a gore ke dire jang. 1 2 3 4
57. Mongwe o ntse a mpha kgomotso le go leka go ntlhaloganya. 1 2 3 4
58. Ke ne ke re ke a itlhoboga mo go emelaneng le seemo. 1 2 3 4
59. Ke ntse ke batla sengwe se se molemo mo go se se diragalang. 1 2 3 4
60. Ke ntse ke dira metlae ka gone. 1 2 3 4
61. Ke ntse ke dira sengwe gore ke seka ka akanya thata, jaaka go ya dibaesekopong
(movies), go lebelela segwana sa ditshwantsho(tv), go bala, go ijesa dijo tsa
ditoro, go robala, go ya mabenkeleng. 1 2 3 4
62. Ke amogetse seemo sa gore go diragetse. 1 2 3 4
63. Ke ntse ke kgona go tlhalosa le go supa maikutlo a me a sa siamang. 1 2 3 4
64. Ke ntse ke leka go batla kgomotso mo tumelong ya me le mo ditumelong tsa
semoya.
1 2 3 4
65. Ke ntse ke leka go kopa dikgakololo le thuso mo bathong ba bangwe ka gore ke
ka dira eng. 1 2 3 4
66. Ke ntse ke ithuta go tshela ka gone. 1 2 3 4
67. Ke akanya thata ka dikgato tse ke tshwanetseng go di tsaya. 1 2 3 4
68. Ke ntse ke itshwaya phoso ka dilo tse di diragetseng. 1 2 3 4
69. Ke ntse ke rapela le go tlhatlhanya. 1 2 3 4
70. Ke ntse ke dira metlae ka seemo se. 1 2 3 4