EXPERIENCES OF EMERGENCY MEDICAL SERVICE STAFF ON DELIVERY OF EMERGENCY MEDICAL SERVICES IN CHOBE DISTRICT, BOTSWANA

By

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A dissertation submitted to the University of Zambia in partial fulfilment of the requirements for the award of a degree of Master of Science in Emergency and Trauma Nursing

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DECLARATION

I, Leatile Gareitse declare that this dissertation hereby submitted for the award of the degree of Master of Emergency and Trauma Nursing is my own work and has not been submitted either wholly or in part for another degree to this University or any other or to my institution of Higher learning.

Signed……………………………………. Date…………………………

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CERTIFICATE OF COMPLETION OF DISSERTATION

I, Proffessor Lonia Mwape, having supervised and read this dissertation, I am satisfied that this is the original work of the author under whose name it is being presented.

I further confirm that the work has been completed satisfactorily and is ready for presentation to the examiners.

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Date: ___________________________

Head: Department of Basic and Clinical Nursing Sciences

Name: _____

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ABSTRACT

Emergency Medical Services (EMS) in Chobe, Botswana, play a vital role in responding to a variety of emergencies in a region characterized by unique geographical and socio-economic challenges. The growing conflict between the expanding human population and wildlife, along with organizational and occupational stressors, significantly impacts EMS staff. These challenges can increase the risk of psychological distress and negatively affect service delivery. Previous studies have highlighted high rates of mental health issues, including PTSD, depression, and anxiety, among EMS workers worldwide. However, limited research has focused on the experiences of EMS staff in Botswana, particularly in Chobe.This study aims to explore the experiences of EMS staff in Chobe, Botswana, in delivering emergency medical services, with a particular focus on staffing shortages, psychological stress, operational challenges, and the impact on their professional and personal well-being. A qualitative case study design was employed, utilizing unstructured in-depth interviews with 8 EMS staff members. Data were analyzed using thematic analysis to identify key themes that reflect the experiences and challenges faced by EMS personnel in Chobe. The study identified four primary themes: EMS staff expressed concerns over the absence of a formal EMS policy, which led to unclear roles and operational inefficiencies. The faulty communication system, particularly regarding the EMS emergency line, was a significant challenge, delaying response times and leading to tensions between EMS staff and the community. EMS staff reported experiencing high levels of psychological distress, including anxiety, depression, and burnout. Coping mechanisms were found to be largely ineffective, with some staff members exhibiting a minimal use of available mental health support systems. EMS staff highlighted the shortage of vehicles and personnel, which placed a considerable strain on their ability to respond to emergencies promptly. Additionally, the lack of a response care doctor at the scene and reliance on limited resources further complicated service delivery. The shortage of staff resulted in long shifts, increased workload, and heightened stress levels. The hierarchical nature of EMS operations and the challenges faced by staff transitioning from general nursing to emergency medical services also contributed to tension and dissatisfaction among staff. The delivery of EMS in Chobe, Botswana, is hindered by staffing shortages, operational constraints, and psychological stress. Addressing these challenges through improved communication systems, adequate resource allocation, formalized policies, and mental health support for EMS staff is critical to improving service delivery and enhancing the well-being of EMS personnel.

Key words: *Emergency Medical Services, staffing shortages, operational challenges, mental health, psychological distress*

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DEDICATION

I dedicate this study to my family, whose unwavering love, encouragement, and support have been the foundation of my journey. Your belief in me has been my greatest motivation.

To the dedicated Emergency Medical Services (EMS) staff in Chobe, Botswana, who work tirelessly to provide life-saving care despite numerous challenges. Your resilience and commitment inspire this study.

Lastly, to all frontline healthcare workers who continue to serve their communities with passion and sacrifice, may this study contribute to the recognition and improvement of your invaluable work.

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LIST OF ABBREVIATIONS

EMS		Emergency Medical Services

EMT	Emergency Medical Technician
HRDC	Health Research and Development Committee
IRB	Institutional Review Board
NHRA	National Health Research Authority
PTSD	Post Traumatic Stress Disorder
RHMT	Regional Health Management Team
TOT	Training of Trainers
UNZABREC	University of Zambia Biomedical Research Ethics Committee
UNZA	University of Zambia
WHA	World Health Assembly
WHO	World Health Organization

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CHAPTER ONE
INTRODUCTION

1.1 Introduction

Emergency medical services (EMS) play a vital role in the healtchcare systems worldwide by providing immediate, life-saving care during critical situations. EMS staff are often the first redponders to emergencies, operating in unpredictable, high-pressure environments where their decisions can mean the difference between life and death. These healthcare professionals are expected to deliver both medical expertise and emotional support , often under challenging conditions. As such their work is not only physically demanding but also psychologically and emotionally taxing, therefore, the well-being of such pre-hospital staff emerges as an issue of concern (Li, 2022).

In Botswana, EMS operations in the Chobe District are coordinated from Kasane. While Kasane serves as the administrative and operational base, the EMS is responsible for covering the entire district, which includes remote villages, wildlife arears and tourism hubs. Chobe is internationally renowned for its natural beauty and biodiversity, attracting thousands of tourists annually to destinations such as Chobe National Park. The tourism-driven nature of the district, combined with its vast geographical coverage and limited infrastructure in some areas, places exceptional demands on EMS personnel. As highlighted by Li (2022), the impact of such demanding work on the mental and emotional well-being of EMS providers is often underestimated, yet it has serious implications for service delivery and staff sustainability.

EMS staff in Chobe face a wide range of emergencies, from road traffic accidents and health crises among residents and tourists to encounters and challenges associated with reaching remote areas. These diverse and complex demands go beyond physical workload and extend into psychological, emptional and social deminsions. The cumulative effects of such stressors can significantly impact the well-being and performance of EMS professionals.

Above and beyond that, these workers also have to deal with long hours and demanding schedules and limited resources which can foster an environment where burnout, compassion fatigue and psychological distress in excessive (Bardhan, 2023).

Given this context, it is essential to explore the lived experiences of EMS staff operating from Kasane and serving the broader Chobe District. By taking a comprehensive exploration of the work load as well as emotional challenges faced by EMS workers, we can shed some light on the workers lived experiences in fulfilling their professional duties. Furthermore, examining the workers coping strategies and support systems that mitigate the adverse effects of work, we intend to inform evidence-based interventions and policies aimed at safe-guarding the well-being of EMS workers.

This chapter presents the background of the study, the problem statement, research objectives and questions, the significance of the study, scope and limititations and definitions of key terms to provide a comprehensive foundation for the research.

1.2 Background

Emergency care involves the provision of emergency medical services for severely ill and/or injured patients before they reach the hospital, during the transfer from the scene, or health post to the referral health facility (& Bhavsar, 2022). In other words, it is the care provided to a client before they are taken to the Dhanvantri hospital, with the purpose of stabilizing them before they can get advanced care at the facility. The EMS staff, also known as the emergency medical workers include paramedics, emergency medical technician, ambulance personnel and volunteers, call takers, EMS nurses and EMS physicians (Beyramijam, et al., 2020).

The first public EMS in Botswana was initiated in 2012 and comprised of nurses, Emergency Medical Technicians (EMT), Healthcare assistants. EMS in Botswana remains in its early stages and the majority of staff working in the pre-hospital setting are nurses who are often redeployed from hospital wards to ambulance services and research shows that general nurses provide most of the ambulance care (Mamalelala, et al., 2023). The system was introduced in response to the high rates of morbidity and mortality resulting from road traffic accidents and other emergencies, particularly those involving children.

According to Motor Vehicle Accidents Fund (2012) statistics, in 2012, Botswana recorded 404 road traffic fatalities, translating to a mortality rate of approximately 20.1 per 100 000 population, which exceeded the global average of 17.4 per 100 000 at the time (WHO, 2012).

The World Health Assembly (WHA) which is a governing body of the World Health Organization (WHO) has urged for governments to place greater emphasis on strengthening pre-hospital and emergency trauma care system.This call to action was reinforced in recent years through resolutions such as WHA76.2, which promotes the development of intergrated emergenc, critical and operative care services as essential components of universal health coverage and emergency preparedness(Owoo et al. 2023), This is evidence that pre-hospital and emergency care is a critical part and element of the health care system all around the globe. The functions of the emergency care system which are meant to provide an early and effective treatment include treatment of acute medical emergencies, victims of injuries or serious obstetrical conditions. Unlike in primary care, the workers under emergency care must operate 24 hours every day of the year in extreme environments such as bad weather, dangerous geography or even encounter a situation of conflict which can potentially endanger the EMS worker (World Bank, 2021).

For the past years, there has been an increasing burden the emergency care component across the world placing more need for quality emergency care. According to Chang et al. (2018), Emergency medical diseases account for more than half of all global deaths annually, with low-income countries bearing the greatest burden due to limited access and capacity. Even though this is the case, there are numerous challenges that affect EMS staff to perform well. These include overcrowding of patients in the emergency unit, working overtime due to extreme persistent shortage of EMS workers as well as the lack of support and attention from the management (Afaya, et al., 2021).

Wellbeing has been defined as the combination of the feeling good and functioning well; the experience of positive emotions such as happiness and contentment as well as the development of the one`s potential. It also involves having some control over one`s life, a sense of purpose and experience positive relationship (Ruggeri, et al., 2020).

Mamalelala et al., (2023) study revealed that EMS staff have to perform their work with no clear standard of practice, training, and an unclear scope of practice. EMS staff in their line of duty meet people in different critical and emergent conditions at the scene of the emergency.

The stress experienced at scenes, and increased workload as well as limited time, all cumulate and impact the overall well-being of the EMS staff and increase their vulnerability to physical, psychological and other health problems. This may consequently compromise, their productivity and quality of performance. EMS work therefore, can present significant challenges. It can offer numerous positive and negative effects on the well-being of EMS staff. Positive effects include a strong sense of purpose, professional satisfaction, companionship, opportunities for personal and professional growth, and enhanced resilience. On the other hand, the well-being of pre-hospital staff in EMS can significantly be affected by the physical demands, psychological stress, and social challenges associated with the job. Addressing these issues through comprehensive support programs is essential to maintaining the health and effectiveness of these critical healthcare providers (Afaya et al., 2021).

In response to the growing burden on emergency healthcare systems, the Botswana government has taken significant steps to improve the experiences and performance of EMS staff. Key initiatives include the development of the national EMS standards, the acquisition of over 160 new ambulances between 2021 and 2023, and the rollout of simulation-based training programs in partnership with international collaborators. These training sessions, particularly in pediatric emergency and trauma care using Rapid Cycle Deliberate practice (RCDP), have been found to enhance clinical skills, teamwork and confidence among EMS providers (Evans et al., 2023).

Despite these efforts, several challenges persist. The shortage of EMS staff, logistical issues with ambulance distribution, limited duration of training and inconsistent adherence to clinical protocols have limited the full impact of these measures (Banda et al., 2021). EMS personnel, particularly in rural settengs, continue to face physical and psychological stressors exacerbated by resource constraints, long shifts and minimal support systems (Afaya et al., 2021). These ongoing issues highlight the need for a more intergrated approach that not only strengthens EMS infrastructure but also prioritizes staff well-being, continuous professional development and system-level accountability (Evans et al., 2023).

The motivation behind exploring the experiences of EMS staff in Kasane, Botswana, is driven by the critical need to understand the realities faced by those on the front lines of healthcare delivery. With Chobe's growing population and increasing tourist activity, EMS personnel encounter a diverse range of medical emergencies that challenge their skills and resources. By delving into their experiences, this research aims to shed light on the issues affecting emergency response, including workload, and job satisfaction. Highlighting their stories not only recognizes their vital contributions but also seeks to inform improvements in emergency medical practices and policies, ultimately enhancing the quality of care for both residents and visitors in this area. Although studies specifically focused on Chobe are limited, existing research suggest that EMS personnel in Botswana operate under resource-constricted environments, with high patient volumes and logistical barriers, especially in remote regions (Evans et al.,2023).

1.3 Statement of the problem

Emergency Medical Services staff in Kasane are increasingly exposed to work-related stress that affects their well-being and performance. These stressors arise from a combination of high workloads , long and irregular shifts, limited staff numbers , inadequate equipmet and the challenging terrain of the region. Kasane's status as a tourism hub and its proximity to wildlife areas further complicates emergency response as EMS personnel must frequently attend to incidents in remote or wildlife prone locations (Lepetu et al., 2015). The ongoing human-wildlife conflict and rising medical emergencies due to population growth intensify the pressure on EMS. (Nijland, 2020).

EMS staff often experience psychological distress due to repeated exposure to critical incidents, lack of adequate rest and minimal psychosocial support. These conditions may lead to burnout, anxiety, depression and reduced job satisfaction.The ministry of Health has made efforts to improve EMS through staff training, equipment upgrades and scholarship programs (MOHW, 2020), but these have not fully addressed the systematic issues. Economic limitations, poor implementation of policies and limited public recognition of EMS roles continue to hinder progress (Lewin,2011).

Understanding the nature and impact of these stressors on EMS personnel in Kasane, Chobe is critical to improving staff well-being and ensuring effective emergency care delivery.

1.4 Justification

There is a significant lack of research focusing specifically on the well-being of EMS staff in Botswana. Most existing studies originate from high-income countries with vastly different healthcare systems, resources, and working conditions. This study aims to fill that gap by gathering first-hand accounts and lived experiences of EMS personnel in Kasane, Botswana. By exploring their challenges, coping mechanisms, and perceptions, the research will generate context-specific data that reflects the unique socioeconomic factors—such as resource limitations, staffing shortages, and rural service demands—as well as cultural influences like community expectations, traditional health beliefs, and societal support systems. Therefore, the study is justified by its potential to address occupational health concerns, improve emergency care delivery, inform national policy, and ultimately enhance both staff well-being and patient outcomes within Botswana's healthcare landscape. Additionally, it will contribute valuable, underrepresented perspectives to the global discourse on EMS work (Ledikwe et al., 2018).

Binjami (2021) studied the challenges and opportunities in rural emergency medical services. The study identified the everyday challenges faced by EMS personnel in rural areas such as limited access to resources and lack of adequate training. It did not specifically address how the challenges affect job satisfaction. This therefore presents an opportunity to explore how these challenges influences job satisfaction and their experiences in Kasane. Another study in the literature, *Psychological Impact of EMS Work* by Naushad (2019), highlights the mental health challenges commonly experienced by EMS personnel, such as anxiety, depression, and post-traumatic stress. However, the study presents a generalized overview and does not account for region-specific factors that may intensify these challenges—such as resource shortages, lack of mental health support, high patient loads, and unique environmental risks—particularly in under-resourced settings like Botswana. This underscores the need for localized research that captures the full scope of stressors faced by EMS staff in Kasane.

Conducting a study in Kasane will fill this gap by examining how a different variety of challenges and operational pressures impact the well-being of EMS staff. These studies underline the need for more localized research that addresses the unique challenges and experiences of EMS personnel in Kasane, Botswana.

1.5 Purpose of the study

The aim of this study is to explore the experiences of Emergency Medical Service (EMS) staff in the delivery of emergency medical care in Chobe, Botswana, in order to identify the key challenges, they face, understand the impact of these experiences on their well-being and job performance, and provide evidence-based recommendations for improving EMS service delivery in the region.

1.6 Research question

What are the experiences of emergency medical staff in delivering emergency medical services in Kasane, Botswana?

1.7 Research objective(s)

1.7.1 General objective

To explore the experiences of emergency medical service staff on delivery of emergency medical services at Kasane, Botswana.

1.7.2 Specific objectives

1. To examine how workload influences job satisfaction among EMS staff.
2. To identify the emotional and psychological challenges faced by EMS personnel.
3. To explore the coping mechanisms used by EMS staff to manage work-related stress.
4. To assess the availability and effectiveness of support systems for EMS personnel in Kasane.

1.8 Definition of Terms

This section outlines key terms used in the study to ensure clarity and consistency. Each term is defined both conceptually (based on its general meaning in academic literature) and operationally (as it is used within the specific context of this research). These definitions are essential in guiding data collection, analysis, and interpretation.

Emergency Medical Services (EMS)

- **Conceptual definition**: Emergency Medical Services refer to a structured system designed to respond to medical emergencies by providing prehospital assessment, treatment, and transport of patients to healthcare facilities.

- **Operational definition**: In the context of this study, EMS refers to the publicly funded ambulance and prehospital care services located in Kasane, Botswana, including all personnel involved in emergency response, care delivery, and patient transport.

Experience

- **Conceptual definition**: Experience denotes the personal insights, reflections, and meanings that individuals attach to events they have directly encountered. It is often used in qualitative research to explore participants' perspectives.

- **Operational definition**: In this study, experience refers to the narratives shared by EMS staff through interviews, detailing their emotions, perceptions, and day-to-day experiences while delivering emergency medical services in Kasane.

Challenges

- **Conceptual definition**: Challenges are defined as conditions or obstacles that hinder effective performance or decision-making in a given context.

- **Operational definition**: The term refers to specific barriers faced by EMS personnel in Kasane, such as equipment shortages, limited transport infrastructure, inadequate staffing, and communication issues affecting service delivery.

Rural Setting

- **Conceptual definition**: A rural setting is typically characterised by low population density, limited access to specialised services, and significant geographical distance from major urban centres.

- **Operational definition**: For this study, the rural setting comprises Kasane and its surrounding villages in the Chobe District of Botswana, where EMS operations are influenced by geographic isolation, resource constraints, and a dispersed population.

Delivery of Care

- **Conceptual definition**: Delivery of care refers to the actions and processes involved in providing medical attention, including diagnosis, treatment, and transport, especially in urgent or emergency situations.

- **Operational definition**: In this study, delivery of care refers to the sequence of activities undertaken by EMS personnel, from responding to emergency calls to the final handover of patients at healthcare facilities.

Staff Perceptions

- **Conceptual definition**: Staff perceptions relate to employees' attitudes, beliefs, and interpretations regarding their roles, responsibilities, and working environment.

- **Operational definition**: This study interprets staff perceptions as the viewpoints of EMS personnel on factors such as work conditions, system efficiency, resource availability, and support structures within their operational environment in Kasane.

1.9 Conclusion

Understanding experiences of EMS personnel in Kasane is vital for developing strategies that address their unique needs and improve emergency care delivery. This study will document EMS staff experiences related to high workloads, resource limitations, and geographical challenges that hinder effective service delivery. It will also explore the emotional and psychological impacts of prolonged exposure to critical incidents, insufficient staffing, and limited organizational support, all of which negatively affect their well-being and job performance. By identifying these key challenges, assessing the adequacy of current support systems, and examining existing gaps in training and community awareness, the study will generate actionable recommendations aimed at improving EMS staff welfare, enhancing operational efficiency, and ensuring the sustainable delivery of high-quality emergency care in Kasane.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The literature review presents insights from previous studies that explore the impact of emergency medical services (EMS) on EMS staff, as well as research closely related to the current study. It critically examines and interprets findings on the various effects of EMS work on the wellbeing of EMS personnel globally. The reviewed studies employ both quantitative and qualitative research methods to investigate issues comparable to those addressed in this study. Most of the relevant research was conducted at international and regional levels, with a notable absence of studies focusing on the local context. The review draws on data published within the past five years, sourced from databases such as Google Scholar, Wiley Online Library, Research4Life, Medline, and PubMed. Search terms included "pre-hospital work," "psychological wellbeing of pre-hospital staff," "effects of pre-hospital work," and "emergency medical services work," with particular attention given to studies related to Botswana and its neighboring regions.

2.2 Overview of Existing Literature

Understanding the impact of emergency medical services (EMS) work on the psychosocial and physical wellbeing of EMS staff requires a comprehensive review of relevant global and regional literature. This section provides an overview of selected studies that explore the complex interplay between EMS work environments, staff experiences, and health outcomes. Although the body of research continues to grow, most studies have focused on international or regional contexts, leaving a significant gap in knowledge regarding EMS staff experiences in local settings such as Chobe, Botswana.

Thielman et al. (2020) conducted a meta-analysis to examine the relationship between psychosocial and physical work factors and their influence on wellbeing outcomes and job satisfaction among EMS professionals. Analyzing 33 studies, they found a high prevalence of psychological and physical stressors in EMS roles.

Notably, higher educational qualifications were associated with better health status, while burnout and post-traumatic stress disorder (PTSD) levels were significantly elevated. The study also revealed a negative correlation between job satisfaction and emotional exhaustion, emphasizing the mental toll of the EMS profession.

Mun (2022) investigated the implementation of emergency medical services training using an online "Training of Trainers" (ToT) model during the COVID-19 pandemic in Tashkent, Uzbekistan. The study aimed to assess the effectiveness and reception of online training among EMS instructors and trainees. While the findings showed no significant differences in trainee satisfaction across the various training groups, the study highlighted the growing need for flexible and context-specific EMS training approaches, particularly in resource-limited settings.

In a broader exploration of interprofessional roles, Kumrujaman et al. (2023) synthesized literature on the involvement of social workers within emergency medical service settings. Drawing from diverse databases, the review identified distinct roles across three emergency phases. In the pre-emergency stage, social workers function as educators and advocates; during emergencies, they act as facilitators and liaisons; and in the post-emergency phase, they serve as planners and evaluators. While not directly focused on EMS staff, the study underscores the multidisciplinary nature of emergency response and the psychosocial support roles that influence EMS environments.

Lawn et al. (2020) conducted a qualitative synthesis of 39 peer-reviewed studies published between 2000 and 2018, specifically focusing on the mental health and wellbeing of ambulance personnel. The findings indicated that day-to-day exposure to high-stress situations contributes significantly to conditions such as depression, anxiety, and PTSD. This highlights the cumulative psychological impact of EMS work, reinforcing the importance of mental health interventions within the profession.

Mosca et al. (2021) explored the lived experiences of EMS staff managing pediatric emergencies in Johannesburg, South Africa, through a qualitative, exploratory study involving 10 EMS agencies. The study revealed that managing pediatric patients was particularly distressing for EMS personnel, with participants reporting feelings of fear, inadequacy, stress, and anxiety.

These emotional responses were amplified by limited training and the high-stakes nature of pediatric emergencies.

Beyramijam et al. (2020) conducted a systematic review of EMS providers' preparedness for disaster and emergency scenarios, examining articles published between 2005 and 2019. The review concluded that there is a lack of comprehensive studies on the disaster readiness of EMS providers, limiting the ability to draw definitive conclusions. This gap signals the need for more targeted research into training, resource allocation, and systemic support structures.

The delivery of EMS remains a critical component of healthcare systems worldwide. However, the wellbeing of EMS personnel—who serve as frontline responders—is often compromised by inadequate support, high-pressure environments, and resource constraints. In Botswana, and specifically in Kasane—a developing town and prominent tourist destination—EMS personnel operate within a unique and demanding context. The convergence of local health needs, limited healthcare infrastructure, and tourism-related emergencies underscores the urgency for localized research. To date, no known studies have examined the lived experiences of EMS staff in Kasane, further reinforcing the relevance and necessity of the present study.

2.3 Workload and Job Satisfaction Among EMS Staff

Emergency Medical Services (EMS) professionals operate in high-stress environments characterized by demanding workloads, irregular shifts, and exposure to traumatic events. These factors significantly influence their job satisfaction and overall well-being.

A meta-analysis by Wulansari et al. (2023) examined the effects of workload and work environment on job satisfaction among health personnel. The study found that high workloads reduced job satisfaction by 53% compared to lower workloads, while a safe work environment increased job satisfaction by 2.75 times .

Rivard et al. (2020) conducted a cross-sectional analysis of nationally certified EMS professionals and found that 75% worked over 40 hours per week, with 71% dependent on overtime or multiple jobs to make ends meet.

Dependence on additional work was associated with higher odds of job dissatisfaction (adjusted odds ratio [aOR] 1.92) and intentions to leave EMS within one year (aOR 1.32) and within five years (aOR 1.16) .

The COVID-19 pandemic further exacerbated these challenges. Nucera et al. (2023) reported that paramedics faced increased workloads, longer working hours due to personnel shortages, and heightened risk of infection. These stressors contributed to a high prevalence of burnout syndrome and elevated rates of mental health disorders, particularly post-traumatic stress disorder (PTSD) .

Moreover, a study by Cash et al. (2020) highlighted that increased job demands, such as time pressure and lack of access to adequate rest facilities, were associated with higher odds of burnout among EMS professionals. Specifically, time pressure was linked to more than a fourfold increase in the odds of work-related burnout (aOR 4.40) .

These findings underscore the critical impact of workload and work environment on job satisfaction among EMS staff. Addressing these issues through organizational interventions, such as optimizing shift schedules, providing adequate rest facilities, and ensuring a supportive work environment, is essential to enhance job satisfaction and retain EMS professionals.

2.4 Emotional and Psychological Challenges Faced by EMS Personnel

Emergency Medical Services (EMS) personnel routinely operate in high-stress, unpredictable environments where they face traumatic incidents, critical decision-making, and constant exposure to life-threatening situations. These occupational hazards place EMS workers at increased risk for psychological issues such as anxiety, depression, burnout, and post-traumatic stress disorder (PTSD) (Wild et al., 2020; Coyte et al., 2024). The cumulative impact of repeated exposure to trauma, combined with long hours, inadequate support systems, and a culture that often discourages emotional expression, significantly threatens the well-being of EMS providers.

Moreover, the recent COVID-19 pandemic exacerbated existing mental health concerns among EMS workers, revealing systemic weaknesses in psychological preparedness and support. Studies have shown that EMS personnel were among the frontline workers most severely affected by emotional fatigue and fear of infection, contributing to elevated stress levels and intentions to leave the profession (Nucera et al., 2023; BMC Emergency Medicine, 2024). This section examines recent literature on the emotional and psychological challenges EMS personnel face, with particular attention to the prevalence of mental health disorders and the impact of the COVID-19 pandemic.

Prevalence of Mental Health Issues

Emergency Medical Services (EMS) professionals are exposed to frequent high-pressure situations that significantly increase their risk of psychological distress. A systematic review by Petrie et al. (2018) found that over 20% of EMS workers experience symptoms of post-traumatic stress disorder (PTSD), while approximately 30% report symptoms consistent with depression or anxiety. These figures are considerably higher than those observed in other healthcare and non-healthcare occupational groups. The authors highlighted that cumulative exposure to trauma, including fatal accidents, suicides, and life-threatening injuries, is a key contributor to the mental health burden in this sector.

In addition to PTSD and depression, other studies have reported alarmingly high levels of emotional fatigue and burnout among EMS personnel. Stanley et al. (2021) found that EMS workers are more likely to experience suicidal ideation compared to the general population, with suicide attempts significantly underreported due to occupational stigma. Their national sample revealed that approximately 5.4% of EMS professionals reported having attempted suicide, while nearly 38% reported having experienced some form of suicidal ideation during their careers. The combination of long working hours, sleep disruption, exposure to trauma, and limited access to mental health services creates an environment ripe for psychological deterioration if not addressed proactively.

The psychological impact of working in emergency services is increasingly recognized, with studies such as Eiche (2019) highlighting issues such as burnout, PTSD, and emotional distress among EMS personnel. These challenges can be exacerbated by the high-stress environment of emergency response, where workers are often exposed to traumatic events. However, their research lacks a specific focus on the context of Chobe, failing to consider how local stressors, such as the demands of managing emergencies in a tourist hotspot, influence the mental health of EMS staff. Understanding the unique pressures faced by EMS personnel in this setting is essential for developing targeted support systems that can enhance resilience and overall well-being.

2.5 Coping Mechanisms Employed by EMS Staff

EMS personnel are routinely exposed to high-stress situations, including traumatic incidents, unpredictable work hours, and high patient acuity, which can lead to psychological distress and burnout. To mitigate these effects, EMS professionals employ various coping mechanisms, both adaptive and maladaptive, to maintain their mental health and job performance.

2.5.1 Resilient Coping Factors

Bilsker et al. (2019) conducted a study to identify the dimensions underlying resilient coping in paramedics and dispatchers. Through exploratory factor analysis, they identified five key resilient coping factors: balance, self-acceptance, trusted social support, meaningful work, and physical self-care. These factors were found to predict resilience, suggesting that targeted resilience training focusing on these areas could benefit EMS personnel.

2.5.2 Role of Social Workers in EMS Settings

Social workers play a pivotal role in supporting EMS personnel across different stages of emergency response. According to Kamrujjaman et al. (2023), in the pre-emergency stage, social workers act as educators, communicators, advocates, and awareness builders. During emergencies, they serve as search and rescue workers, advocates, facilitators, networkers, psychosocial assessors, consultants, counselors, and liaisons for referral activities. In the post-emergency period, social workers function as planners, liaisons, interdisciplinary collaborators, researchers, evaluators, and individuals responsible for follow-up.

These roles support EMS personnel in coping with work-related stress by providing psychological support, facilitating communication, and ensuring continuity of care.

2.5.3 Common Coping Strategies Among EMS Professionals

Emergency Medical Services (EMS) professionals employ various coping mechanisms to manage the high-stress nature of their work. A study by Kim et al. (2023) identified four primary coping strategies among Emergency Medical Technicians (EMTs): seeking social support, practicing self-care, utilizing coping mechanisms such as humor and distraction, and finding meaning and purpose in their work. These strategies were instrumental in helping EMTs navigate the psychological demands of their roles, particularly during the COVID-19 pandemic.

Organizational support plays a crucial role in facilitating effective coping among EMS staff. Implementing stress management programs, providing access to mental health resources, and fostering a supportive work environment can enhance resilience. Coyte et al. (2024) emphasized the importance of organizational support and peer networks in helping paramedics process emotions and maintain psychological well-being.

2.5.4 Adaptive and Maladaptive Coping Mechanisms

Emergency Medical Services (EMS) personnel frequently encounter high-stress situations, necessitating effective coping strategies to maintain their mental health and job performance. Coping mechanisms are broadly categorized into adaptive and maladaptive strategies, each with distinct impacts on well-being.

Adaptive coping strategies are constructive approaches that facilitate stress management and resilience. These include acceptance, positive reinterpretation, seeking emotional support, and problem-solving. Such strategies have been linked to better well-being and self-efficacy among EMS personnel. For instance, a study by Kim et al. (2023) found that EMS professionals employing adaptive coping mechanisms reported lower levels of stress and higher job satisfaction.

Conversely, **maladaptive coping strategies** are counterproductive behaviors that may provide temporary relief but often exacerbate stress in the long term. These include avoidance, denial, substance misuse, and self-distraction. Research indicates that reliance on such strategies is associated with higher perceived stress levels and adverse mental health outcomes. For example, a study by Kirby et al. (2011) demonstrated that ambulance personnel utilizing maladaptive coping mechanisms experienced increased symptoms of post-traumatic stress disorder (PTSD) and decreased psychological well-being.

Understanding the differential impacts of adaptive and maladaptive coping strategies is crucial for developing targeted interventions aimed at promoting healthy coping mechanisms among EMS staff. Implementing resilience training programs and providing access to mental health resources can enhance adaptive coping and mitigate the reliance on maladaptive behaviors.

2.5.5 Organizational Support and Interventions

Organizational support plays a crucial role in facilitating effective coping among EMS staff. Implementing stress management programs, providing access to mental health resources, and fostering a supportive work environment can enhance resilience. Coyte et al. (2024) emphasized the importance of organizational support and peer networks in helping paramedics process emotions and maintain psychological well-being.

Fallon et al. (2023) conducted a scoping review exploring the use of peer support programs to reduce organizational stress and trauma among public safety workers, including EMS personnel. Their findings emphasized that organizational support, including policies, practices, and peer leadership training, contributed to the sustainability of peer support programs. Confidentiality, trust, and shared lived experience were also essential components.

Additionally, Alghamdi et al. (2023) investigated the impact of managerial support on the mental well-being of ambulance personnel in Saudi Arabia. Their study revealed a statistically significant relationship between manager behavior and mental well-being, underscoring the importance of supportive managerial practices in enhancing EMS personnel's mental health.

2.6 Operational Challenges in EMS Delivery

Emergency Medical Services are critical for providing timely prehospital care. However, EMS systems globally face numerous operational challenges that impede service delivery. These challenges include resource limitations, inadequate training, infrastructural deficiencies, communication barriers, and the inherent pressures associated with emergency response work.

2.6.1 Resource Limitations

Resource constraints are a pervasive issue within EMS systems. Limited funding often results in insufficient ambulance fleets, outdated medical equipment, and inadequate communication technologies, compromising response times and patient outcomes. A recent study by Basnawi (2023) highlighted that increasing demand for services, coupled with limited resources, aging infrastructure, and technological advancements, pose significant challenges to EMS departments. Operational-level solutions suggested include investing in technology, cross-training personnel, developing contingency plans, and partnering with other organizations.

2.6.2 Communication Barriers

Effective communication is paramount in Emergency Medical Services (EMS) operations. However, communication barriers significantly contribute to operational inefficiencies. Miscommunication between dispatch centers and EMS personnel, often due to non-medically trained dispatchers, can lead to delays and errors in emergency response. Additionally, the lack of interoperable communication systems among different emergency services hampers coordinated responses during critical incidents.

Meischke et al. (2013) conducted a study examining the impact of language barriers on EMS dispatching. Their findings indicated that language barriers increased the time to dispatch Basic Life Support (BLS) by 33% and Advanced Life Support (ALS) by 43%. The use of interpreter services further delayed dispatch times, highlighting the critical need for effective communication strategies in EMS operations.

Furthermore, Oliver et al. (2025) identified staffing shortages and inadequate managerial support as significant stressors affecting emergency telecommunicators. These factors contribute to communication breakdowns and operational inefficiencies within EMS systems.

2.6.3 Inadequate Training and Workforce Shortages

Inadequate training and workforce shortages exacerbate operational difficulties. EMS staff often face high-stress situations without sufficient training or support, leading to burnout and high turnover rates. A study by Carlson (2024) emphasized the impact of workforce shortages on the quality and timeliness of care provided. Potential solutions include recruitment and retention strategies, enhanced continuing education, scenario training programs, and the incorporation of telehealth technologies.

2.7 Cultural Considerations in Emergency Medical Services

Cultural competence is increasingly recognized as essential in emergency medical services (EMS), particularly in regions with diverse populations. Kasane, situated in northern Botswana, presents a unique context where EMS personnel engage with both local communities steeped in traditional practices and a significant influx of international tourists. This duality necessitates a nuanced understanding of cultural dynamics to ensure effective and respectful emergency care delivery.

Recent studies emphasize the importance of cultural humility and competence in EMS education and practice. For instance, the National Association of EMS Educators (NAEMSE) highlights that EMS personnel must develop cultural humility to bridge gaps between providers and the increasingly diverse populations they serve (NAEMSE, 2020). This involves acknowledging and addressing personal biases, understanding patients' cultural backgrounds, and adapting care approaches accordingly.

In the context of Botswana, a needs assessment conducted by Glomb et al. (2018) identified specific challenges faced by EMS providers, including the need for simulation-based training tailored to local cultural and clinical contexts. The study underscored the prevalence of emergencies related to obstetric complications, trauma, and respiratory distress, highlighting the necessity for culturally informed training programs that address these common scenarios.

Furthermore, the implementation of a pediatric simulation-based prehospital training course in Botswana demonstrated significant improvements in EMS providers' competencies (Glomb et al., 2021). This initiative, developed in collaboration with the Botswana Ministry of Health and Wellness, emphasized the importance of culturally relevant training materials and scenarios to enhance the effectiveness of EMS personnel in diverse settings.

The integration of cultural competence into EMS practice is not only a matter of ethical responsibility but also a determinant of patient safety and care quality. Venesoja et al. (2023) found that prehospital nursing students identified communication and teamwork, often influenced by cultural factors, as critical components affecting patient safety during emergency responses. These findings suggest that cultural considerations are integral to both the educational preparation and operational effectiveness of EMS personnel.

In summary, the intersection of cultural dynamics and emergency medical services in Kasane necessitates a comprehensive approach to EMS training and practice. By incorporating cultural competence and humility into EMS education, and by developing training programs that reflect the local context, EMS personnel can be better equipped to navigate the complexities of providing care in a culturally diverse environment. This approach is vital for enhancing patient outcomes and ensuring equitable healthcare delivery in Kasane and similar settings.

2.8 Conclusion

The literature reviewed emphasizes the fundamental role that Emergency Medical Services (EMS) play in the healthcare system, particularly in improving outcomes during critical incidents through rapid response and skilled pre-hospital care. Studies from high-income countries have consistently shown that well-resourced EMS systems contribute significantly to reducing mortality and enhancing patient recovery. In contrast, research from low- and middle-income countries, including parts of sub-Saharan Africa, reveals persistent challenges such as poor infrastructure, limited funding, lack of public awareness, and inadequate training of EMS professionals. Although Botswana has made strides in health service delivery, there is a noticeable scarcity of comprehensive studies focused specifically on EMS, particularly those examining the lived experiences of frontline staff in remote regions like Kasane.

Existing literature tends to adopt a quantitative or systems-level approach, often overlooking the subjective, day-to-day realities faced by EMS staff—including emotional stress, logistical difficulties, and cultural or geographic barriers to care. This reveals a significant gap in understanding how these experiences affect both the personnel and the quality of emergency care provided.

Moreover, the unique socio-economic and geographic context of areas like Kasane, which face tourism-related demands and limited health infrastructure, further necessitates localized research. Addressing these gaps through qualitative inquiry will not only amplify the voices of EMS staff but also contribute to policy reforms, capacity-building, and the development of contextually relevant strategies aimed at improving EMS delivery in Botswana and similar settings.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the methodology employed in conducting the study and outlines the systematic procedures followed to achieve the research objectives. It provides a comprehensive description of the research design, the geographical and institutional setting of the study, the characteristics of the target population, and the rationale behind the sampling approach. Additionally, it details the determination of the sample size, the inclusion and exclusion criteria applied, and the tools and techniques used for data collection. These elements collectively ensure the reliability and validity of the data gathered and contribute to the credibility of the study's findings.

3.2 Study design

The study adopted a qualitative research approach, allowing participants to describe their lived experiences of working within the Emergency Medical Services (EMS) in Kasane, Botswana. Qualitative research enables an in-depth exploration of human experiences using methods such as in-depth interviews (Hennink, 2020). Specifically, this study employed an interpretive phenomenological design, which focuses on how individuals make sense of significant experiences in their lives (Villa et al., 2018). This design was considered appropriate for the study as it facilitates a comprehensive and nuanced understanding of the participants' perspectives, emotions, and interpretations related to their work. The interpretive phenomenological approach values the voices of participants, enabling them to express their experiences in their own terms and from their own viewpoints (Suddick, 2020).

3.3 Study setting

The study was conducted at Chobe Emergency Medical Services (EMS), which operates under the Kasane Primary Hospital in Botswana. Although the EMS base is located in Kasane, it provides pre-hospital emergency medical care across the entire Chobe District.

The EMS team comprises 13 staff members who are responsible for emergency response services and are stationed within the Kasane Fire Department. Chobe District spans a total area of approximately 20,800 km² (8,000 square miles) and has a population of 28,743 (Botswana Population and Housing Census, 2022).

The district is known for its rich biodiversity, including Chobe National Park—the second largest national park in Botswana—which is home to a variety of wildlife, notably the largest population of elephants in Africa. Chobe shares international borders with Zambia, Zimbabwe, and Namibia, and has five official ports of entry: Road Border, Ngoma Border, Regional Border, Pandamatenga Border, One Stop Border, and Kasane International Airport. The district comprises nine villages: Kasane, Kazungula, Kachikau, Kavimba, Lesoma, Mabele/Muchenje, Parakarungu, Satau, and Satau. Although Kasane, which lies along the Chobe River opposite Namibia's Impalila Island, has a population of approximately 9,095 people (Kopij, 2018), the EMS team is responsible for serving all the villages within the district.

3.4 Study population

The study population includes all staff members currently working at Kasane Emergency Medical Services (EMS), which operates under the Chobe District Health Management Team (DHMT). The EMS personnel in Kasane are composed of various cadres, including nurses, and Emergency Medical Technicians (EMTs), all of whom are responsible for the delivery of pre-hospital care across the Chobe District.

3.4.1 Target Population

The target population refers to the broader group of individuals from which the research seeks to draw conclusions. For this study, the target population includes all professional EMS personnel in Botswana who are directly involved in the delivery of pre-hospital emergency medical services.

3.4.2 Accessible Population

The accessible population comprises the group of individuals within the target population who are available and eligible to participate in the study.

In this research, the accessible population is limited to the 13 EMS staff currently stationed at Kasane EMS. These individuals were considered accessible due to their proximity, availability, and relevance to the research setting and objectives.

3.5 Sampling

3.5.1 Sample size

The study was determined by saturation and this study achieved data saturation by the 8th participant. This is in line with Sandellowski (1995); Manen (1990) and Glorgi (1997) that suggested that a sample size of 6-12 participants is sufficient to capture the essence of phenomenon being studied. Qualitative research, the phenomenon about the sample size is that the data collection and sample size should continue until the point at which no new concepts emerge or no new patterns are uncovered (Rijnsoever,2017).

3.5.2 Sampling technique

Purposive sampling was used to select participants for the study. It is a sampling technique whose sample characteristics are defined for a purpose that is most relevant to the study (Andrade, 2020). The EMS staff was used for the study as they are the ones with the experiences of working in working in Kasane EMS. This is whereby the participants who have knowledge or experience on what is needed will be used for the study so that the study can get rich information. Purpose sampling was done for its ability to match the sample to the aims and objectives of the research study, thus improving the rigor and trustworthy of the study (Campbell, et al, 2020).

3.6 Inclusion and exclusion criterion

3.6.1 Inclusion Criteria

Participants included in the study were:

- EMS staff members who had been actively employed at Chobe EMS for a minimum of one year.

- Personnel who were directly involved in pre-hospital emergency response, including Emergency Medical Technicians (EMTs), and nurses.
- Individuals who were available and on active duty during the data collection period.

3.6.2 Exclusion Criteria

The following individuals were excluded from the study:

- Support or non-clinical staff, such as cleaners, administrative personnel, or drivers who do not directly provide emergency medical care.
- Staff members who could not participate due to health or psychological conditions that would impair their ability to engage in the interview process.
- Individuals who declined to participate or withdrew consent at any point in the study.

3.7 Data collection tool(s) and technique(s)

Data for this study were collected using in-depth, interviews with EMS staff working under Kasane Primary Hospital, Botswana. This method was chosen because it provides the flexibility to explore participants' lived experiences in a natural and conversational manner. Unstructured interviews are well suited for qualitative research as they enable participants to express their perspectives, emotions, and reflections without the constraints of rigid questioning (Klaven, 2022).

The interview sessions began with a brief introduction outlining the purpose of the study and ethical assurances, including confidentiality and voluntary participation. The interviews were then guided through conversational dialogue, allowing participants to narrate their professional experiences, describe the challenges they face, and share how their work environment influences their well-being. This approach encouraged spontaneous insights and allowed for deeper understanding of the realities of EMS work in the context of Kasane.

By allowing participants to speak openly and at length, the tool facilitated the collection of detailed, context-rich data that aligns with the interpretive phenomenological framework of the study, which seeks to understand how individuals make meaning of their experiences (Suddick, 2020).

3.7.1 Data collection technique(s)

The study utilized primary data collection through in-depth, unstructured interviews to explore the experiences and well-being of EMS staff in Kasane. Primary data refers to original information gathered directly from participants for the specific purpose of the study (Cerar, 2021). In-depth interviews, as a qualitative technique, allow for open-ended discussions that explore participants' lived experiences, perceptions, and emotions in detail (Osborne, 2021).

Participant Recruitment

Participants were purposively selected from the Chobe EMS team, ensuring that those with at least one year of work experience in emergency medical services were included. The recruitment process began with official permission sought from the Chobe District Health Management Team (DHMT). After ethical approval was obtained, eligible participants were approached individually, informed about the study purpose, and invited to participate. Informed consent was obtained in writing before proceeding with interviews.

Interview Procedure

Each interview began with a warm greeting and a re-introduction of the researcher and the study objectives. Participants were reassured of the confidentiality of their responses and reminded of their right to withdraw at any time without any consequences. The interviewer expressed gratitude for their willingness to take part in the study.

To reduce potential bias and ensure that the researcher's personal beliefs did not influence data collection, the interviewer practiced **bracketing**—a process of setting aside personal assumptions and experiences related to the EMS field. This was done through reflective journaling before and after each interview session.

The interviews were conducted in a quiet and private setting, either at the EMS base or another location preferred by the participant. Conversations were informal and participant-led, with the researcher encouraging open dialogue. The unstructured nature of the interviews allowed participants to freely share their experiences, with the researcher asking follow-up and probing questions where necessary to gain deeper insights. Interviews lasted between 30 to 60 minutes and were audio-recorded with the participants' consent. Notes were also taken to capture non-verbal cues and context-specific observations.

Closure

Each session concluded with a brief summary of the main points shared, giving the participant an opportunity to confirm or clarify their statements. The interviewer thanked the participant for their time and contribution. The recordings and notes were securely stored for transcription and analysis.

3.8 Trustworthiness and rigor

The aspect of trustworthiness in a study is of utmost importance for encouraging reliability and credibility of the findings of the very study (Johnson,2020). Four trustworthiness principles were maintained throughout the study. The adapted principles included credibility, transferability, dependability and conformability. Trustworthiness is used in a qualitative study and aims to support the argument that the findings are worth paying attention to (Elo,2014).

3.8.1 Credibility

In this study, **peer debriefing** was employed as a strategy to enhance the credibility of the research findings. Peer debriefing involves engaging with colleagues or peers who are familiar with qualitative research but are not directly involved in the study. These peers critically examine the study's design, data collection processes, and preliminary findings to ensure that interpretations and conclusions are not influenced by the researcher's personal biases. Peer debriefing was carried out through regular discussions with fellow researchers and postgraduate students who provided constructive feedback on the emerging themes and data interpretation. This process helped to identify areas of the research that needed further clarification or modification, ensuring that the findings accurately reflected the participants' experiences (Motulsky, 2021).

Additionally, the peer debriefing sessions served as an opportunity to verify the appropriateness of the data collection methods and analysis approach, which further contributed to the rigor of the study (Williams, 2022).

By engaging with peers throughout the research process, the study was able to maintain a high level of credibility and objectivity, as this external feedback served to balance the interpretations and reduce the risk of researcher bias. This approach ultimately strengthened the trustworthiness of the findings and ensured a comprehensive understanding of the lived experiences of EMS staff in Kasane.

3.9 Data analysis and presentation of findings

3.9.1 Data analysis

The data analysis in this study followed a thematic analysis approach, guided by the phenomenological method of understanding lived experiences. The researcher aimed to uncover meaningful patterns and shared themes from the narratives of Emergency Medical Services (EMS) staff in Chobe.

All audio-recorded interviews were first transcribed verbatim, and the transcripts were carefully reviewed for accuracy and completeness. The validated transcripts were then uploaded to secure cloud storage to ensure data protection and confidentiality.

The analysis process involved the following steps:

Familiarization with the Data

The researcher read each transcript multiple times to become deeply familiar with the content. This immersive process helped to identify initial impressions, repeated expressions, and significant emotional tones present in the participants' responses.

Coding

Transcripts were systematically coded by highlighting words, phrases, or sentences that captured important concepts or experiences. Both **explicit content** and **implicit meaning** (including tone, emotional expressions, and other non-verbal cues noted during the interviews) were taken into account.

Theme Development

Codes were then examined for similarities and grouped into categories, which were further refined into themes. These themes represented recurring ideas across participants' accounts, such as "resource constraints," "emotional toll of the job," or "navigating remote terrain."

Theme Review and Interpretation

Themes were reviewed in relation to the full data set to ensure they accurately reflected the participants' experiences. Direct quotes from the participants were used to support each theme, ensuring that the findings remained grounded in the voices of those interviewed.

Summarization and Integration

A thematic summary was written for each participant's interview, integrating all relevant themes while preserving the unique context of their story. These summaries helped to validate the findings and allowed for comparison across cases, offering a holistic view of the lived experiences of EMS staff in Kasane.

3.9.2 Presentation of findings

The findings of the study were presented thematically, based on the categories and themes that emerged during the data analysis process. Each theme represented a significant aspect of the lived experiences of EMS staff in Kasane and was supported by direct verbatim quotes from participants to enhance authenticity and credibility.

The presentation of findings followed this structure:

Each major theme was introduced individually, accompanied by a clear explanation of its meaning and relevance to the participants' work context and Sub-themes were discussed under each main theme to show the depth and variation in participants' experiences. Direct quotes from the interviews were used to support each theme. These quotes were selected to illustrate key points, reflect emotional responses, and maintain the voices of the participants throughout the report.

Where relevant, observations of non-verbal cues (e.g., changes in tone, emotional expressions) made during data collection were referenced to add interpretative depth.A narrative approach was applied, connecting individual stories to broader themes, ensuring that the findings told a cohesive and compelling account of the challenges and realities faced by EMS staff in Kasane, Chobe.

3.10 Ethical considerations

No harm was caused to any human or animal during the course of this study. Ethical clearance was obtained from the **University of Zambia Biomedical Research Ethics Committee (UNZABREC)**, with approval granted under Ref No: **5757-2024**. Additional permissions were obtained from the **National Health Research Authority (NHRA)**, the **Institutional Review Board (IRB)** under the Ministry of Health, the **Health Research and Development Committee (HRDC)**, the **Chobe Regional Health Management Team (RHMT)**, and the **Kasane EMS administration** prior to data collection.

Participation in the study was entirely voluntary. Each participant was fully informed about the purpose of the study, the procedures involved, potential risks, and their right to withdraw at any time. Written informed consent was obtained from all participants.

To maintain **confidentiality**, several safeguards were implemented:

Participants were assigned **pseudonyms** to protect their identities, and no real names were used in transcripts or final reporting.

Personal identifiers were removed from all direct quotes used in the report to preserve anonymity.

These measures ensured that the rights, privacy, and dignity of all participants were upheld throughout the research process.

3.11 Conclusion

The study adopted a qualitative phenomelogical study design with its main focus on the experiences of the emergency medical service staff at Kasane, Botswana. The study targeted all the EMS staff that are attending to the pre-hospital work and exclude the cleaners. The in-depth interviews were used to gather the detailed information, then analyzed thematically. The study strictly adhered to ethical considerations to minimize harm and discomfort to participants.

CHAPTER 4

PRESENTATION OF FINDINGS

4.1 Introduction

This chapter presents the findings of the study, offering a detailed account of data collected through interviews with Emergency Medical Service (EMS) staff in Chobe, Botswana. It explores the experiences of EMS personnel in delivering emergency medical services, with a focus on the challenges they face, the strengths within the system, and potential areas for improvement. Using thematic analysis, key themes and subthemes emerged from the data, revealing the multifaceted nature of pre-hospital emergency care in this unique setting. The findings are supported by direct quotes from participants to provide an authentic representation of their perspectives.

The chapter is organized thematically. Each section presents a major theme, followed by its corresponding subthemes. For each theme, descriptive narratives are provided, supported by participant quotes to illustrate the findings. This structure ensures a logical flow of information and facilitates a comprehensive understanding of the EMS staff's experiences in Chobe.

4.2 Presentation of Findings

The presentation of findings focuses on providing a rich, descriptive narrative that brings participants' voices to the forefront regarding their experiences in delivering emergency medical services in Kasane, Botswana. The findings are organized around key themes and patterns that emerged during data analysis, ensuring that each theme addresses the study objectives. Each theme is introduced with a brief explanation, followed by an in-depth exploration supported by direct quotes from participants. These quotes serve to illustrate and validate the interpretation, allowing readers to understand the context and meaning behind the data. They provide authentic examples of the viewpoints being discussed.

To enhance clarity, the themes have been organized hierarchically, with main themes and sub-themes. For example, this study presents "Operational Challenges and Resource Constraints" as a main theme, which includes sub-themes such as "Lack of EMS Policy" and "Insufficient Resources and Equipment." This structure ensures that the findings are presented systematically, allowing readers to easily follow the narrative.

The codes that identify the meaningful units of data from which these main themes have been derived are also provided, offering a clear link between participant responses and the themes discussed.

4.2.1 Socio-Demographic Characteristics of Participants

Interviews were conducted with eight participants, after which data saturation was reached. Among the participants, three were women and five were men. The study included four nurses and four emergency medical technician, representing a diverse range of roles within the Emergency Medical Services (EMS) team in Kasane. Participants had varying levels of experience in emergency medical services, with some having prior experience in general nursing or technical emergency care. Their years of experience ranged from 2 to over 10 years in EMS, while others had additional experience in broader healthcare roles. Regarding educational background, the majority of the nurses held diplomas in nursing, while a few had bachelor's degrees in nursing. Some participants also had additional post-basic training in emergency or critical care. Emergency Medical Technicians had specialized training related to EMS operations.

4.2.2 Emerging themes and subthemes

This section presents findings derived exclusively from in-depth interviews conducted with Emergency Medical Service (EMS) staff in Chobe, Botswana. The use of this qualitative method provided a comprehensive understanding of participants' lived experiences, perceptions, and challenges in the delivery of emergency medical care. The insights gathered offer firsthand accounts of the realities faced by EMS personnel in the field. Thematic analysis was used to identify recurring patterns and meanings within the data. The following themes emerged from this analysis: operational challenges, staff well-being and coping mechanisms, staffing shortages and professional challenges, and environmental safety and workload dynamics. A summary of the themes, sub-themes, and corresponding codes is presented in Table 3 below, followed by a detailed description of each.

TABLE 1: THEMES, SUBTHEMES & CODES

Theme	Sub-Theme	Code 1 • •	Code 2 • •
Operational Challenges	**Lack of formal EMS policy**	•No official EMS policy • Staff rely on verbal instructions or past experiences.	• Staff express confusion about what steps to follow during emergencies. • No consistent guidance across different teams.
	Slow emergency days	• Long hours pass with no calls, leading to boredom and fatigue. • Staff feel underutilized on some days.	• Some workers carry a heavier workload than others. • Inconsistency leads to team frustration.
	Faulty EMS communication	• EMS hotline is often unreachable or rings without response. • Missed or delayed emergency requests due to signal issues.	• Community members lose trust in EMS responsiveness. • Residents prefer to use personal transport instead.
Staff Well-being and Coping Mechanisms	**Limited mental health support**	• No formal debriefing sessions after traumatic calls. • Psychological support is not EMS-specific.	• Staff report emotional exhaustion after repeated exposure to trauma. • Some suppress emotions due to stigma.
	Overwhelmed by workload	• EMS staff are expected to do multiple roles including clerical work. • Limited staff leads to burnout.	• Lack of clarity on job boundaries causes confusion. • Duties often spill beyond defined responsibilities.

	Self-initiated coping strategies	• Team members have informal chats to decompress. • Peer support is relied on heavily.	•Some exercise or rest on off-days to manage stress. •Others use music or spiritual practices.
Professional Challenges	**Long working hours**	• Long 12-hour shifts with minimal rest breaks. • Shifts often extend due to emergencies.	• Short staffing prevents adequate time off. • Rotation rarely implemented effectively.
	Workplace favoritism	• Certain individuals receive preferred schedules. • Perceived bias in management decisions.	• Friction arises between nurses and EMTs. • Role assignments not evenly distributed.
	Transition difficulties	• Nurses struggle with adapting to pre-hospital care pace. • EMS expectations differ from hospital routines.	• Onboarding lacks EMS-specific practical sessions. • New staff feel unprepared for field work.
Environmental and Safety Risks	**Night-time safety concerns**	• Dangerous animal encounters during rural night calls. • Staff fear personal injury.	• Poor visibility increases risk of vehicle accidents. • Limited lighting in remote areas.

	Community interference	• Community members crowd the scene, obstructing access. • Some take photos or shout advice.	• Interference delays patient care and endangers lives. • No trained responders among crowd.
	Misinterpretation of EMS role	• Public believes EMS only transports, not treats. • Some refuse EMS help, wanting hospital staff.	• Emergency situations treated casually. • Calls sometimes made for non-emergencies.

Theme 1: Operational Challenges

Participants shared insights into how the absence of a clear EMS policy and various operational challenges impacted their ability to deliver effective emergency medical services. They consistently highlighted that the lack of a formal policy created confusion and inconsistencies in service delivery. Additionally, limited resources and a faulty EMS communication line further compounded these challenges, leading to delays in response times and difficulties in coordinating care. The analysis revealed three sub-themes: lack of EMS policy, slow days with fewer emergencies, and faulty EMS communication line.

Subtheme 1: Lack of Formal EMS Policy

The lack of a formal EMS policy in Kasane emerged as a significant barrier to effective service delivery. Participants highlighted that the absence of clear guidelines regarding EMS procedures, the flow of power, and the allocation of roles created confusion and inefficiencies within the team. This lack of structure, particularly in an EMS system that began with general nurses and was later joined by technical assistance staff, often resulted in operational challenges and inconsistent service delivery.

Several participants shared concerns about not knowing the exact procedures to follow in different EMS scenarios, which caused delays and confusion during emergencies:

> *"We're not always sure about the correct procedures for certain cases because there isn't a formal EMS policy. It's hard to know who is supposed to do what when things get chaotic." (Participant no. 8)*

> *"The flow of power is unclear sometimes, especially when there's a mix of general nurses and technical assistance staff. No one is sure who is in charge of making decisions on the spot." (Participant no. 5)*

This lack of clarity around roles and responsibilities was particularly challenging for the newly added technical assistance staff, who were not initially part of the EMS team:

> *"As a nurse, I'm used to managing patients in a hospital, but in EMS, it's different. We don't always know if we should be leading or if the EMT's should take the lead. There's no clear structure." (Participant no. 7)*

The absence of formal guidelines on the allocation of roles, particularly between nurses and technical assistance staff, created tension and confusion, often resulting in delays in the response to emergencies. Participants also pointed out that the flow of authority during operations was not always clear:

> *"There are moments when we're all doing different things, but it's not clear who's responsible for what. We end up stepping on each other's toes, and it wastes time." (Participant no. 4)*

The lack of a formal EMS policy, combined with the unclear distribution of roles and responsibilities, contributed to a lack of consistency in patient care and team dynamics. EMS staff often had to rely on their experience and personal judgment rather than clear directives, which further heightened stress levels and operational inefficiencies. This lack of structure hindered their ability to provide efficient, coordinated, and timely care, especially during critical moments.

Subtheme 2: Slow Days and Less Frequent Emergencies

The subtheme of "Slow Days and Less Frequent Emergencies" emerged as a notable challenge for EMS staff in Kasane. Participants shared that, compared to other stations, Kasane EMS faced fewer emergency calls, leading to periods of inactivity that impacted the team's readiness and overall morale. While the station is not as busy as others, the irregular nature of emergency calls meant that EMS staff were often caught off guard during emergencies, and the lack of consistent calls led to feelings of disengagement and frustration.

Several participants expressed concerns about the lack of regular cases, which made it difficult to stay prepared and maintain operational efficiency:

> *"On slow days, we don't get enough calls to keep ourselves sharp. Sometimes when an emergency finally comes in, we're not as quick as we need to be because we haven't had enough practice." (Participant no. 4)*

> *"We don't get as many emergencies here as we did at our previous stations, and it can be hard to stay in the right mindset when there's so little to do on the quieter days." (Participant no. 6)*

This perception was supported by the fact that, despite having a well-equipped team, the lack of frequent calls led to staff becoming less familiar with emergency protocols and response times, which could affect their ability to handle critical situations efficiently when they arose.

Additionally, the slower pace of work was linked to reduced morale, with participants indicating that the long stretches of downtime left staff feeling underutilized and sometimes disheartened:

> *"On slow days, it feels like we're just waiting around for something to happen. It's hard to stay motivated when you're not really needed, and then when something does happen, it feels like it comes out of nowhere." (Participant no. 3)*

Despite these slower periods, the EMS staff still had to be on high alert, ready to respond when emergencies did occur. The irregular frequency of calls meant that, when emergencies did arise, staff were often stretched thin, leading to delays or rushed responses. This dynamic made it difficult to maintain a balance between staying prepared and managing periods of inactivity. Ultimately, slow days and fewer emergencies contributed to the challenge of maintaining readiness, leading to staff frustration and a lack of confidence in their ability to respond efficiently to urgent cases. The unpredictability of the call volume further complicated the staff's ability to establish a consistent workflow.

Subtheme 3: Faulty EMS Communication Line

The issue of the faulty EMS communication line in Kasane has been a long-standing challenge, particularly regarding its operational management. Initially, the 997-emergency line was under the control of the hospital, meaning that when people called for emergency medical services, their calls were first received by hospital staff and then redirected to the EMS team. This setup created significant delays in response times and contributed to frustration within the community. The lack of direct communication between the public and EMS personnel led to tensions, as people were often left waiting while their calls were transferred or misdirected.

As one participant explained:

> *"Initially, when the 997 line was controlled by the hospital, there were so many delays. People would call in and be transferred to EMS, which could take time, and that delay affected our response time. The community was frustrated, and we felt like we were caught in the middle." (Participant no. 8)*

> *"The setup at the beginning caused a lot of confusion. It was hard for us to get to the scene on time because the calls had to go through the hospital first. It just wasn't efficient, and people started losing trust in our ability to help them." (Participant no. 6)*

Although the issue with the 997 line being under the hospital's control has since been resolved, a new challenge has emerged. The EMS communication line is still frequently faulty, resulting in an ongoing issue with reachability. Even though the line is now directly under EMS control, participants noted that it remains unreliable, leading to further breakdowns in communication between EMS personnel and the community.

> *"There were some improvements when the line was transferred to us, but it's still not perfect. Sometimes the line doesn't go through at all, and we're left scrambling, trying to make contact with the hospital or the people who need us." (Participant no. 4)*

> *"The whole issue with the communication line has caused a lot of tension. Even when the line is working, people are already upset because of the past delays and now the line issues still persist. The community doesn't trust that we're able to reach them quickly when it matters." (Participant no. 2)*

The faulty communication line, combined with its problematic history under the hospital's control, has contributed to ongoing tension between EMS staff and the community. The community's initial frustration over the delays in receiving EMS support is compounded by the continued unreliability of the communication system, further eroding trust in the service. This issue highlights the critical need for a dependable and direct EMS communication line to prevent delays, ensure effective coordination, and rebuild community confidence in the emergency medical services in Kasane.

Theme 2: Staff Well-Being and Coping Mechanisms

The well-being of EMS staff in Kasane is significantly affected by the high demands of the job, including the physical, emotional, and psychological stressors associated with emergency response work. Staff frequently face challenges due to understaffing, long shifts, and a lack of resources, all of which contribute to their overall strain.

In response to these challenges, EMS staff have developed personal coping mechanisms, although formal support systems remain insufficient. The theme of staff well-being encompasses the physical and psychological impacts of the job, self-coping strategies, and the lack of adequate support systems tailored to the unique needs of EMS staff.

Subtheme 1: Limited Support for Mental Health

A key challenge highlighted by EMS staff in Kasane was the limited availability of mental health support tailored to their unique needs. While counseling services are offered at the hospital, they are not specifically directed toward EMS staff, who face distinct emotional and psychological stressors due to the nature of their work. EMS personnel often encounter traumatic incidents, high-pressure situations, and unpredictable emergency calls, all of which can lead to emotional strain and burnout. However, the lack of a formalized support system to address these stressors results in EMS staff feeling unsupported and isolated in their mental health needs.

Several participants expressed that while they had access to counseling services, these were not designed with their specific roles in mind, leaving them with little opportunity to address the unique emotional and psychological burdens they face on the job:

> *"We have counseling available at the hospital, but it's not tailored for us. EMS is a different kind of job, and we need specialized support to deal with the stress." (Participant no. 7)*

> *"This lack of focus on our mental health has really been a problem. Sometimes we face traumatic events that stay with us, and the support isn't enough." (Participant no. 2)*

These sentiments emphasize the need for tailored mental health services that specifically address the stress, trauma, and emotional strain of EMS work. Without this, EMS staff are left to cope on their own, often without the necessary resources to help them manage their emotional and psychological well-being.

Subtheme 2: Staff Overwhelmed by Workload

Another significant concern among EMS staff was the overwhelming workload they faced, which often led to burnout and exhaustion. Many participants reported being required to juggle multiple responsibilities, from responding to emergency calls to performing administrative tasks, without clear demarcation of roles or sufficient staff to manage the workload effectively. This lack of role clarity further intensified the stress experienced by EMS staff, as they were forced to multitask and stretch their capabilities to cover gaps in staffing.

> *"I'm expected to respond to calls, take care of patients, and do admin work. It feels like there's never enough time to do everything properly. The workload is overwhelming." (Participant no. 5)*

> *"Sometimes it feels like I'm pulled in every direction. There's no clear division of duties, and that makes it harder to prioritize what needs to be done first." (Participant no. 3)*

The absence of role clarity meant that EMS staff were frequently juggling multiple tasks without proper support, increasing their stress levels and diminishing the quality of care they could provide. This lack of organization within the EMS team contributed to a sense of being constantly overwhelmed, which had negative consequences on staff morale and well-being.

Subtheme 3: Self-Coping Mechanisms

In the absence of sufficient formal support, EMS personnel have developed their own coping strategies to manage the stress of the job. Physical activities, such as using the gym and engaging in recreational activities, were frequently mentioned as helpful outlets. However, these coping mechanisms are often insufficient to fully alleviate the pressures of the job, especially when faced with long shifts and unpredictable emergency calls:

> "*We do try to relax by using the gym, especially on quieter days, but it's hard to forget the stress of the job when the next emergency could come at any time." (Participant no. 5)*

"Having a gym at the station helps, but it's not enough. Sometimes it feels like no matter what we do, the pressure is always there, especially when we're understaffed." (Participant no. 2)

While these self-coping mechanisms offer some relief, they are not always enough to mitigate the chronic stress that EMS staff experience, particularly during intense or high-pressure situations.

Subtheme 4: Physical and Psychological Impact of Stress

The physical and psychological toll of the job on EMS staff is evident, with many reporting feelings of exhaustion, burnout, and emotional distress. The unpredictable nature of EMS calls, coupled with the challenge of working with limited resources, creates a stressful environment that affects both the physical health and mental well-being of staff. Many EMS personnel described experiencing fatigue, difficulty coping with traumatic cases, and a constant sense of being on edge:

"I feel physically drained after every shift, and emotionally, it's tough. Some calls just stick with you for days. You can't just turn off those emotions, especially when things don't go well." (Participant no. 8)

"After a particularly tough case, it's hard to shake the feeling of exhaustion, and you start to feel the emotional toll. It wears you down mentally and physically." (Participant no. 3)

Theme 3: Professional Challenges

This theme explores how staffing shortages in Kasane's EMS service led to significant challenges both in terms of the operational efficiency of the service and the well-being of EMS staff. The shortage of personnel not only increases the workload but also affects professional dynamics within the team.

EMS staff face heightened stress and interpersonal tensions, which further complicate their ability to deliver effective care. The sub-themes outlined below provide insight into the specific ways staffing shortages impact EMS operations and staff interactions.

Subtheme 1: Staff Shortage Forcing Long Shifts

One of the most pressing issues faced by EMS staff in Kasane was the requirement to work extended shifts due to staffing shortages. Participants reported that they were often required to work 12-hour shifts, which led to physical exhaustion and mental burnout. This was particularly challenging during quieter periods when the workload was less predictable, as staff were still expected to be available and prepared for emergencies at all times. The long shifts, combined with the unpredictability of the work, created an unsustainable working environment that took a toll on staff well-being.

> *"We don't have enough people, so we have to work long shifts. 12 hours every day—it's draining, especially when we're not getting enough rest or support." (Participant no. 3)*

> *"During slow days, you think you'll get a break, but the calls still come, and you're expected to be ready. The long shifts don't help. It's exhausting." (Participant no. 1)*

Subtheme 2: Division and Favoritism between Staff

Another significant challenge raised by participants was the division and perceived favoritism between nurses and technical assistants. This tension was primarily attributed to hierarchical issues and differences in responsibilities between the two groups. Nurses, often in supervisory roles, created a power imbalance, which led to a sense of alienation and frustration among technical assistants. The perceived favoritism, where certain individuals were given preferential treatment for assignments or resources, further exacerbated the division and strained professional relationships.

> *"There's a lot of tension between nurses and the technical assistants. Nurses are in charge, but sometimes they don't understand the pressure we're under. It feels like there's favoritism, and that creates a bad work environment." (Participant no. 7)*

"We're supposed to work as a team, but it feels like there are always issues between us. Nurses have their way of doing things, and the assistants feel left out." (Participant no. 4)

Subtheme 3: Adapting from General Nursing to EMS Work

Nurses transitioning from general nursing roles to EMS work faced significant professional challenges in adapting to their new responsibilities. The difference between general patient care and emergency medical services required nurses to shift their approach to patient management, often under high-pressure and time-sensitive conditions. This transition was challenging for some nurses, especially in terms of making quick, critical decisions without the same resources or support they had in a hospital setting.

"It's a huge shift going from regular nursing work to EMS. The pace is different, and you don't have the same support you do in the hospital. You have to make decisions quickly, and that can be overwhelming." (Participant no. 6)

"Handling emergencies requires a different mindset. In the hospital, we have more time to think, but in EMS, we have to act fast, and that's hard when you're used to routine care." (Participant no. 8)

Theme 4: Environmental Safety and Workload Dynamics

This theme addresses the environmental and operational challenges faced by EMS staff in Kasane, particularly around safety concerns during emergency responses and the evolving nature of their workload. Staff are tasked with responding to a range of emergency situations, many of which involve additional risks or complications due to the environmental context. The sub-themes below provide a deeper understanding of how these environmental and workload factors affect EMS staff and their ability to provide optimal care.

Subtheme 1: Safety Concerns Attending Calls at Night

One of the most significant concerns raised by EMS staff was the safety risks associated with responding to emergencies at night.

Given the rural and wildlife-rich environment of Kasane, EMS staff expressed apprehension about their personal safety when attending calls, especially those that required them to be in remote or unsafe areas after dark. The presence of wild animals and the lack of adequate lighting in some areas heightened the risks, making staff feel vulnerable.

> *"Nighttime calls are always scary. You never know what to expect, and with the wildlife around here, it's even more dangerous. I'm always worried about what could happen to us." (Participant no. 5)*

> *"When we get called out to some of these areas at night, there's a real sense of danger, especially with animals around. Sometimes it feels like we're not just saving the patient, but also protecting ourselves." (Participant no. 2)*

Subtheme 2: Residents Interfering with Animal Attack Victims

Another issue affecting patient care in Kasane was the quick response by residents to victims of animal attacks, which posed additional risks to the patients' well-being. Residents, often acting out of a desire to help, would attend to victims before EMS arrived, but their interventions were typically done without the necessary medical expertise. This often led to patients being moved or treated improperly, putting their health at further risk.

> *"People rush to help before we get there, and while it's well-meaning, it's not always safe. Sometimes they move patients around too much, or they don't stabilize them properly, and that could make things worse." (Participant no. 4)*

> *"There's a sense of urgency among the residents, but they don't have the training to handle emergency situations. They end up complicating things for us when we finally get there." (Participant no. 7)*

Subtheme 3: Nurses Treating EMS as a Clinic

A recurring issue identified by EMS staff was the tendency of some nurses to treat EMS calls as routine clinical procedures, rather than recognizing the urgency and unpredictability inherent in emergency care.

This approach led to delays in patient treatment and a lack of urgency in addressing critical situations. Some nurses, accustomed to the more controlled environment of a hospital setting, failed to adapt to the dynamic and fast-paced nature of EMS work, which is essential during emergencies.

> *"Some nurses treat EMS like it's just another shift at the hospital. They don't always understand that we have to move fast and prioritize based on the severity of the emergency." (Participant no. 4)*

> *"There's a disconnect. Some of us in EMS feel like nurses don't fully grasp the urgency of certain situations. We can't afford to treat emergencies like routine tasks; its life or death." (Participant no. 6)*

Subtheme 4: Enjoyable Aspects of the Job and Work-Life Balance

While many participants discussed the challenges of working in Kasane's EMS service, some expressed a more positive outlook on their experience, particularly appreciating the slower pace and the autonomy it offered. These staff members found value in the flexibility and balance that the less demanding environment provided. The slower days allowed them to rest, recharge, and mentally prepare for busier periods, which contributed to a better work-life balance compared to the more hectic environment of the hospital.

> *"The slow days here are actually a blessing. It gives us time to rest and catch up on other things. I like that I don't always have to be on my feet and rushing around like at the hospital. It's a good change of pace." (Participant no. 4)*

Additionally, the availability of recreational facilities at the station was another positive aspect. Participants valued the opportunity to unwind during quieter periods, which helped alleviate stress and maintain their overall well-being.

> *"We've got a gym and a recreational room, and that's something we don't get at the hospital. It's great for when we need to blow off some steam after a busy day or just take a break." (Participant no. 6)*

Moreover, participants appreciated the sense of independence they felt working in EMS compared to their previous roles in the hospital. In EMS, staff had more autonomy in decision-making, which they found empowering. Unlike in the hospital setting, where they often had to follow doctors' orders, EMS work allowed them to make immediate decisions based on the situation at hand.

> *"Here, I feel like I have more control over what happens. In the hospital, we always have to wait for the doctor to make the call, but in EMS, I get to decide what needs to be done right away. That independence is something I value." (Participant no. 3)*

4.3 Conclusion

The environmental and workload dynamics faced by EMS staff in Kasane play a pivotal role in their ability to deliver effective care. Safety concerns, the interference of residents in animal attack cases, and the misperception of EMS calls as routine clinical tasks all add complexity to an already challenging job. Addressing these issues requires improved safety protocols, better public awareness, and enhanced training for staff to align their practices with the demands of emergency care. By acknowledging these environmental challenges, EMS services can better equip their staff to handle the unique conditions they face while delivering care. This structure provides a comprehensive understanding of the challenges faced by EMS staff in Kasane, outlining how organizational, operational, and environmental factors contribute to their experiences and difficulties in providing effective emergency medical services.

CHAPTER FIVE
DISCUSSION

5.1 Introduction

This chapter presents a comprehensive discussion of the findings from the study on the experiences of Emergency Medical Services (EMS) staff regarding the delivery of emergency medical services at Kasane, Botswana. The discussion synthesizes the findings of this study with relevant literature, integrating professional insights to offer a holistic understanding of the challenges and dynamics within the EMS service in Kasane. The chapter begins by discussing the socio-demographic characteristics of the participants, followed by a detailed examination of the themes that emerged from the data, implications, recommendations and strengths and limitations of the study.

5.2 Socio-demographic Characteristics of Participants

The diverse socio-demographic characteristics of the participants help to provide a broader understanding of the different experiences, skillsets, and roles within the EMS team. The inclusion of both nurses and emergency medical technicians is important in highlighting the varying roles within the EMS and the different challenges they face. The inclusion of emergency medical technicians and nurses adds diversity to the staff, it also creates an operational challenge, as some participants indicated challenges between nurses and emergency medical technicians, including hierarchy issues and perceived favoritism. These challenges may affect team cohesion and the overall efficiency of EMS operations.

The lack of specialized training in emergency medical services among some staff, particularly general nurses, reflects the broader issue of limited access to formal EMS training, a common challenge in many resource-constrained settings. This finding is consistent with the literature on EMS in low- and middle-income countries (LMICs), where there is often an inadequate number of well-trained EMS professionals (Milan, Cox & Molebatsi, 2020). The lack of formal EMS training may affect the effectiveness of patient care, as non-specialized staff may struggle with complex, high-pressure emergency situations, potentially leading to increased error rates and diminished quality of care.

Interestingly, despite the differences in experience and qualifications, there was no significant variation in how the staff perceived the impact of staff shortages. Both nurses and EMT's reported feeling overwhelmed by their workload, resulting in delayed care and reduced job satisfaction. They all recognized that understaffing led to challenges in providing timely care, with nurses particularly noting the difficulty in balancing emergency duties with routine responsibilities. These findings align with studies that suggest that the workload is a primary stressor for healthcare workers, regardless of their level of education or training (Iwanowicz-Palus et al., 2022).

Regarding gender, both male and female participants expressed similar perceptions about the challenges posed by staffing shortages. While some studies have suggested that gender may influence the perception of workload and coping mechanisms (Nakweenda, Anthonie & Van Der Heever, 2022), this study found that both male and female nurses in Kasane EMS reported similar experiences of stress, fatigue, and ineffective coping mechanisms, such as seeking rest through sick leave. This could be attributed to the overall impact of staffing shortages, which creates challenges that are felt by all staff members, regardless of gender.

5.3 Lack of EMS policy and operational challenges

One of the most prominent challenges identified by participants was the lack of a formal EMS policy. This absence of a structured policy resulted in confusion regarding EMS procedures, role allocation, and the flow of authority within the station. At the inception of the EMS service in Kasane, the emergency line (997) was under the control of the hospital, meaning calls were initially handled by hospital staff and then redirected to EMS personnel. This caused tension between the EMS team and the community, as delays in response times were common due to miscommunication between the hospital and EMS staff. Though some progress has been made in resolving the communication line issue, the faulty line continues to cause frustrations and further strain the relationship between EMS and the local community.

The lack of a formal policy has compounded these issues, as EMS staff, particularly those without specialized EMS training, are often unclear about their roles and responsibilities.

This finding mirrors the situation in other low-resource settings where a lack of standard protocols and clear role definitions among EMS staff leads to operational inefficiencies and poor service delivery (Milan, Cox, & Molebatsi, 2020).

5.4 Staff well-being and coping mechanisms

Participants reported significant challenges related to staff well-being, including high stress levels, burnout, and inadequate mental health support. Although counseling services were available at the hospital, EMS staff were not directly included in these services, leaving them without a formal outlet to address stress. This lack of dedicated mental health resources for EMS personnel further exacerbated the psychological toll of their demanding roles. Moreover, the long shifts required by staff, especially during slower periods, led to physical exhaustion and increased job dissatisfaction.

Participants also described ineffective coping strategies, including self-coping efforts to escape the pressures of their responsibilities. This highlights the critical need for more structured and effective support systems for EMS staff, particularly in terms of mental health resources. The absence of adequate support for EMS workers aligns with findings from other studies that emphasize the importance of providing emotional and psychological support to healthcare workers, particularly in high-stress environments such as EMS (Mamalelala, Dithole, & Maripe-Perera, 2023).

5.5 Operational Resource Constraints

Operational resource constraints were another critical theme in this study. EMS staff reported insufficient resources, including a lack of available vehicles and staff shortages, which forced them to manage more patients than they were equipped to handle. This scarcity of resources resulted in delays in care and difficulty providing timely responses to emergencies. The sharing of ambulances with the hospital and the lack of access to a care doctor during emergency situations further compounded these challenges. These constraints are consistent with findings from studies in other low-resource settings, where limited resources hinder the effectiveness of EMS and reduce the quality of care provided (Milan, Cox, & Molebatsi, 2020).

5.6 Staffing Shortages and Professional Challenges

Staffing shortages were a significant source of stress for EMS staff at the Kasane station. Due to the limited number of personnel, staff were required to work long 12-hour shifts, leading to physical and emotional exhaustion. Additionally, participants reported tension between nurses and EMT’s, with issues of favoritism and unclear hierarchical roles creating a challenging work environment. Furthermore, nurses transitioning from general nursing roles to EMS duties experienced difficulties adapting to the high-pressure nature of emergency medical care. These findings align with research indicating that understaffing and lack of role clarity are major challenges faced by healthcare workers in both hospital and EMS settings (Nakweenda, Anthonie & Van Der Heever, 2022).

5.7 Environmental Safety and Workload Dynamics

Environmental safety and workload dynamics also emerged as a significant concern for EMS staff in Kasane. The presence of wild animals posed safety risks when responding to emergencies at night, and participants expressed concerns about personal safety during these calls. Additionally, the quick actions of local residents in attending to victims of animal attacks often led to risky medical interventions without proper medical support, which further jeopardized patient health. The safety concerns and workload dynamics in Kasane are consistent with similar challenges faced by EMS teams in rural and resource-limited areas, where environmental risks and unpredictable workloads complicate emergency response efforts (Milan, Cox, & Molebatsi, 2020).

5.8 Conclusion

In conclusion, addressing the challenges faced by EMS staff in Kasane, particularly in terms of the lack of formal EMS policies, staffing shortages, resource constraints, and the need for mental health support, is crucial for improving service delivery and staff well-being. By implementing the recommendations outlined above, EMS services can enhance their operational efficiency, improve the quality of patient care, and support the long-term health and retention of their staff. Furthermore, these recommendations can serve as a model for other EMS services in rural and resource-constrained settings in Botswana and beyond.

5.9 Implications of the study to emergency and trauma nursing

5.9.1 Nursing practice

The insights gathered from the experiences of emergency medical staff can lead to enhanced clinical skills training tailored specifically for the unique challenges of emergency and trauma care. This understanding can foster better interdisciplinary collaboration, ensuring cohesive patient management, while also promoting patient-centered approaches that address the high-stress nature of emergency situations. Additionally, focusing on crisis management training based on real-life scenarios can better prepare nurses to respond effectively during emergencies.

5.9.2 Nursing education

Findings from the study can inform nursing curricula, ensuring that future nurses are adequately prepared for the demands of emergency and trauma settings. Incorporating realistic simulation training based on staff experiences will provide nursing students with hands-on practice in managing emergencies. Emphasizing resilience and self-care strategies in educational programs can help equip students to cope with the psychological impacts of working in high-pressure environments.

5.9.3 Nursing administration

Administrative policies can be shaped by insights from the study, prioritizing the well-being of emergency and trauma nursing staff through support systems and adequate staffing levels to prevent burnout. Effective resource allocation can be guided by understanding staff challenges, ensuring nurses have the necessary tools for high-quality care. Furthermore, developing mentorship and support programs based on these experiences can improve job satisfaction and retention among emergency nursing personnel.

5.9.4 Nursing research

The study highlights the need for further research into the mental health and well-being of emergency and trauma nurses, contributing to a growing body of literature on this topic.

Future research can focus on evaluating the effectiveness of interventions aimed at addressing identified challenges, such as stress management programs and targeted training initiatives. Additionally, the study can serve as a foundation for longitudinal research examining the long-term effects of working in emergency settings on nursing practice and staff retention.

5.10 Recommendations

5.10.1 Enhance training programme

Implement ongoing training to keep staff updated on best practices and new protocol and also develop training modules that addresses the specific challenges identified by EMS staff such as managing trauma and stress.

5.10.2 Improve mental health support

Establish peer support groups to foster a culture of sharing and coping strategies amongst staff and also provide easy access to mental health resources and counselling services for EMS staff.

5.11 Plan for Dissemination and Utilization of Findings

The results of this study will be shared with key stakeholders to facilitate the adoption of the recommendations made. A hard copy will be submitted to the University of Zambia (UNZA) School of Nursing Sciences and the Main Library to contribute to the academic resources available for students and researchers interested in emergency medical services (EMS).

Additionally, the findings will be presented to the Ministry of Health (MOH) in Botswana to support decision-making regarding EMS policies, resource allocation, and strategies for improving emergency care services, particularly in remote areas such as Kasane. Enhancing EMS accessibility and efficiency in these areas could improve response times and patient outcomes.

A summary report will be provided to the Chobe District Health Management Team (DHMT) and local healthcare centers to ensure that healthcare providers can access and apply evidence-based insights to enhance EMS operations. This will be instrumental in addressing existing challenges such as resource shortages, workload management, and communication barriers.

To reach a broader audience, the research findings will be published in peer-reviewed journals, such as the International Journal of Emergency Medicine or the African Journal of Emergency Medicine. This will ensure that the study is evaluated by experts in the field and that the findings contribute to global discussions on EMS in low-resource and wildlife-prone settings.

The study will also be presented at local, regional, and international conferences that focus on emergency healthcare, such as the African Conference on Emergency Medicine. These platforms will provide opportunities to engage with other EMS professionals, researchers, and policymakers, fostering discussions that could lead to collaborative solutions for improving EMS delivery in Kasane and similar regions.

5.12 Strengths and Limitations of the Study

5.12.1 Strengths

The study offers valuable firsthand insights into the experiences of emergency medical staff, shedding light on their daily challenges, stressors, and coping mechanisms. By using qualitative methods, it captures nuanced emotions and humanizes the struggles faced by EMS workers, fostering empathy among stakeholders. The findings have practical implications, potentially informing policy changes, training programs, and resource allocation to improve workplace conditions and mental health support. Additionally, the study identifies key issues like burnout and communication barriers, which can enhance EMS effectiveness and patient care. Its relevance to public health makes it a critical contribution to understanding and improving emergency response systems.

5.12.2 Limitations

This study provides valuable insights into the lived experiences of Emergency Medical Services (EMS) personnel in a rural setting, highlighting the unique challenges they face in delivering timely and effective care. While the findings offer a meaningful contribution to the understanding of EMS operations in Kasane, Botswana, it is important to acknowledge the limitations of the study and the steps taken to mitigate their potential impact.

One key limitation is the small sample size and the focus on a single EMS station, which may limit the generalizability of the findings to other regions or contexts. To address this, purposive sampling was used to ensure that participants had relevant, firsthand experience in EMS delivery. This approach allowed for the collection of rich, in-depth data that directly aligned with the study's objectives.

Additionally, the use of self-reported data may have introduced biases such as recall bias or social desirability bias. To minimize these effects, participants were assured of confidentiality and anonymity, fostering an environment conducive to honest and open discussion. Ethical rigor and participant trust were prioritized throughout the data collection process.

To enhance the credibility of the findings, data triangulation was employed by incorporating information from multiple sources where possible, including field notes and relevant documents. This helped validate participant accounts and reduce reliance on single-source narratives.

Researcher bias is a common concern in qualitative studies. This was addressed through reflexivity, with the researcher maintaining a self-critical stance and engaging in regular peer debriefing to ensure objective analysis and interpretation of the data. Furthermore, detailed descriptions of the study context, participant experiences, and local healthcare dynamics were provided, enabling readers to assess the transferability of the findings to similar rural EMS settings.

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APPENDICES

Appendix A: Gantt Chart

Activity	Feb 2024	Mar 2024	Apr 2024	May 2024	Jun 2024	Jul 2024	Aug 2024	Sept 2024	Oct 2024	Nov 2024	Dec 2024	Jan 2025	Feb 2025
Proposal writing													
Submission of proposal													
Ethical clearance													
Data collection and entry													
Data analysis and defending dissertation													
Writing of the final report													
Submission of final report													

Appendix B: Budget and budget justification

Item description	Quantity	Unit cost (BWP)	Total Cost(BWP)	Total Cost (ZMW)
National Health Research Authority (ZNHRA)	1	1100	1100	2211
UNZABREC (ethics approval fee)	1	800	800	1608
Transport service (local and international trips)	6	1000	6000	12060
Transcription services	1	3000	3000	6030
Digital voice recorder	1	3000	3000	6030
Papers	1	150	150	301.50
Stapler and staples	3	100	300	603
Pens	10	5	50	100.50
software	1	3000	3000	6030
Photocopying/internet/communication			1500	3015
Research assistants	3	500	1500	3015
Translation of interview	1	3000	3000	6030
Miscellaneous			1500	3015
Total			24900	50049

Budget justification

The budget will ensure that funds are distributed efficiently for the smooth running of the study. It gives a description of how the funds will be allocated to cover all the costs of the study. To ensure that the research authorities are paid so that the approval as well as the ethics approval can be done, P1100 (ZMW2211) was allocated to ZNHRA and P800 (ZMW1608) for ethics submission and approval. P6000.00 (ZMW12060) was used for the transport. The amount of P30000 (ZMW6030) was used for transcription services, P30000 (ZMW6030) for digital voice recorder and P500 (ZMW1005) was used for stationary such as papers, pens and staplers. Three research assistants were paid P500 (ZMW1005) each amounting to a total of budgeted for the salary of P1500 (ZMW3015) while another P1500 (ZMW3015) was used for the translation of the interview. The miscellaneous money was used for any other expenses related to research.

Appendix C: Participation information sheet

Study title: Experiences of EMS staff on the delivery of emergency medical services at Kasane, Botswana.

Investigators: Leatile Gareitse, University of Zambia School of Nursing Sciences

Phone:+260765451832/+26771563732

Email: leatilegareitse@yahoo.com

Background and rationale for the study:

Emergency Medical Services(EMS) staff are exposed to various stressors including witnessing traumatic events, confronting life and death situations and managing time-critical interventions. The workers also have to deal with demanding schedules coupled with limited resources which can cause burnouts and psychological distress. (Bardhan, 2023).

In Kasane, Botswana, the delivery of Emergency Medical Services (EMS) is crucial due to the region's unique geographical and socio-economic challenges among them being the growing conflict between the growing human population and increasing wildlife activity, which place high pressure on EMS operations(Nijland, 2020). The EMS staff interact directly with the community in their homes or at the scene. Apart from traumas at the scene, they also have to cope with organization and occupational factors such as workload, work demands, long shifts, hierarchical supervision structure, and lack of recognition. It is therefore critical to Understand the staff`s experiences for the development of strategies that address the unique needs of EMS personnel in Kasane, ensuring they can deliver high-quality emergency care effectively and sustainably

Purpose:

The purpose of the study is to explore the experiences of EMS staff on the delivery of emergency medical services at Kasane, Botswana. By participating, you will provide valuable insight into the perspectives of EMS work and the challenges in this region.

Procedures:

You are invited to take part in my study as your participation is highly appreciated. To participate in the study, you are required to sign a consent form to affirm your willingness to take part. With your permission, we will interview you and the interview will be recorded and transcribed for analysis. If needed, you are encouraged to contact the researcher for clarity. Please note that your identity will remain anonymous and all the information will be used solely for study purposes.

Who will participate in the study?

The EMS staff who are in duty at Kasane during the time of data collection period and are willing and able to participate.

Risk /discomforts:

The participants may feel emotional when they start to talk about the things that happened to them in the place of work. However, you are free to withdraw at any point if you feel uncomfortable.

Benefits:

The study will assist policymakers and all other stakeholders in better planning as well as provide evidence-based recommendations to improve emergency medical services delivery. It will also provide the evidence needed to advocate for better support systems and ultimately enhancing the health and effectiveness of EMS services in Botswana.

Cost:

The participants will not incur any cost during the interview.

Compensation for participation:

There is no compensation for participating in the study, however the participants which will be injured during the study will be assisted by the researcher to ensure that they receive the medical assistance and optimal care.

Reimbursement:

There will be no payment made to the participants of the study. Neither before, during or after participation. This is done to eliminate any form of bias in the answers received.

Statement of Voluntariness:

Participation is entirely voluntary. You will be allowed to get out of the study at any time that you wish to withdraw without providing a reason.

Confidentiality:

Your confidentiality as a participant is a priority. No names will be used in the study and all data will remain secure and accessible only to the research team.

Questions about participants rights:

For the participants that may need clarity about their rights on the study may contact the contacts provided below to have their queries dealt with.

Ethical approval:

For clarification regarding ethical approval, please contact:

The Chairperson, University of Zambia Biomedical Research Ethics Committee.

Telephone: +260977925304 Ridgeway Campus

Telegrams: UNZA, LUSAKA P.O. Box 50110,Lusaka, Zambia

Telex: UNZALU ZA 44370

Fax: + 260-1-250753

E-mail:
unzarec@unza.zm

Federal Assurance No. FWA00000338 | IRB00001131 | IORG0000774

NHRAR-REC No 2021-05-0002.

Person to contact for queries:

• For further inquiries, you may contact the Principal Investigator:

Leatile Gareitse, researcher. School of Nursing Phone: +26771563732 / +260765451832

Email: leatilegareitse@yahoo.com

Professor Lonia Mwape (Principal supervisor): University of Zambia, School of Nursing Sciences, P O Box 50110,Lusaka, Zambia, cell +260979093045,email: lonia.mwape@unza.zm

Mr. Fabiana Chapima (Co-supervisor): University of Zambia, School of Nursing Sciences, P O Box 50110, Lusaka, Zambia, cell +260975508007, email: chapima2007@gmail.com

Appendix D: Consent form

TITLE: Experiences of ems staff on the delivery of emergency medical services at Kasane, Botswana

INTRODUCTION

You are being invited to participate in a research study. This form provides important information about your rights as a participant and what participation involves. Please read it carefully and feel free to ask any questions before deciding whether to take part.

RESEARCH PURPOSE

This research examines the experiences of EMS workers in delivering emergency assistance in Kasane, Botswana. By participating, you will provide valuable insights into the work of EMS and the challenges faced in this area.

ELIGIBILITY CRITERIA

EMS workers currently on duty in Kasane at the time of data collection, as well as those who are willing and qualified to participate, will be included in the study.

STUDY PROCEDURE

This study is non-experimental and will involve in-depth interviews to gather qualitative data on: Experiences of emergency medical service staff on delivery of emergency medical services at Kasane, Botswana. If you agree to participate, you will be invited to take part in an individual interview. The interview will be in-depth interview, lasting approximately 45 minutes to 1 hour. During the interview, you will be asked a series of open-ended questions related to your experiences, perspectives, and attitudes regarding, the delivery of emergency medical services in Kasane. The interview will be audio-recorded with your consent, and written notes will also be taken. The interview will be scheduled at a time and location that is most convenient for you. You may choose to have the interview conducted in person or virtually, depending on your preference.

Approximately 6-12 participants will take part in this study. The data from the interview will be analyzed thematically to identify key patterns and insights.

ALTERNATIVE PROCEDURE

You are invited to participate in this research, and your participation is entirely voluntary. To take part in the research, you are requested to sign a consent form to confirm your agreement to participate. With your permission, we will ask you questions, and the interview will be recorded and transcribed for analysis. If you have any questions or require further clarification, you are encouraged to contact the researcher. Please note that your identity will remain confidential, and all information will be used solely for the purposes of this research.

RISKS AND/OR DISCOMFORT

Participants may experience emotional discomfort when discussing their experiences at work. However, you are free to withdraw at any time if you feel uncomfortable or unhappy.

HANDLING OF HEALTH-RELATED INJURY

This research involves discussing work-related experiences, which may evoke distress or emotional discomfort. The research team acknowledges this risk and recognizes the potential for psychological or emotional challenges arising from recalling traumatic events.

If you experience emotional distress during or after participating in the study, the researcher will provide immediate support, including pausing or stopping the interview entirely if necessary. You will be referred to counsellors or mental health professionals for further assistance. You are encouraged to share your experiences or concerns openly, and appropriate measures will be taken to ensure your well-being.

BENEFITS OF THE RESEARCH

This research will assist policymakers and other stakeholders in making improvements and providing evidence-based recommendations to enhance the delivery of emergency services. It will

also provide the necessary evidence to promote better support practices, ultimately improving the health and effectiveness of EMS services in Botswana over time.

NEW INFORMATION

During this research, new information may arise that could affect your decision to continue participating in the study. If any information relevant to your participation becomes known, you will be informed promptly. This will help you make an informed decision about whether to continue with your participation.

COSTS TO SUBJECTS AND COMPENSATION

Participants will not incur any expenses during the interviews.

VOLUNTARY PARTICIPATION

Participation in the research is voluntary. You are free to withdraw from the study at any time if you wish, and there is no need to provide a reason.

RIGHT TO WITHDRAW

You have the right to withdraw from this study at any time without facing any blame. Your decision to withdraw will not affect your relationship with the researcher or the institution. Researcher may also decide to terminate your participation in the study without your consent if necessary, and you will be informed of the reasons for this decision.

PRIVACY, ANONYMITY AND CONFIDENTIALITY

Protecting your confidentiality as a participant is a priority. Your name will not be used in the research, and all information will be safeguarded. Only the research team will have access to it.

COMPENSATION

No compensation will be provided to participants in this study. This includes before, during, and after participation. This is done to avoid any potential bias in the responses given.

FUTURE USE OF INFORMATION

The information and data collected may be used in the future for purposes such as creating a database, conducting archival research, or for educational recordings. This may include sharing or publishing the findings to contribute to the field of study or for training purposes. Any use will respect confidentiality and the consent of the participants.

WHO TO CONTACT?

If you require information about the rights of participants, you may contact:

Portia Moyo – Chairperson, IRB Kasane

- Address: P O Box 3 Kasane
- Email: Portiamoyo38@gmail.com
- Phone: +26777786097

If you have any further questions, you can contact the lead researcher:

Leatile Gareitse, Researcher, School of Nursing

- Phone: +26771563732 / +260765451832
- Email: leatilegareitse@yahoo.com

CONSENT AGREEMENT

If you require clarification regarding the consent agreement, please contact:

The Chairperson, University of Zambia Biomedical Research Ethics Committee.

Telephone: +260977925304 Ridgeway Campus

Telegrams: UNZA, LUSAKA   P.O. Box 50110, Lusaka, Zambia

Telex: UNZALU ZA 44370

Fax: + 260-1-250753

E-mail: unzarec@unza.zm

Federal Assurance No. FWA00000338 | IRB00001131 | IORG0000774

NHRAR-REC No 2021-05-0002.

STATEMENT OF CONSENT

I, ____, have read and understood the information provided in this form. I have been allowed to ask questions and have received satisfactory answers. I understand that participation in this research is my decision, and I have the right to withdraw from the study at any time without penalty. I agree to participate in this study, in accordance with the terms and conditions outlined above.

By placing my signature below, I confirm that I fully understand the research, its potential risks and benefits, and I voluntarily agree to participate.

Participant's Name: ____________________________

Participant's Signature: ________________________

Date: ____

Researcher's Name: ___________________________

Researcher's Signature: _______________________

Date: _______________________________________

Appendix E: Data collection tools

In- depth interview for Kasane EMS Staff

Researcher Bracketing:

- **Before the Interview:**

  Before we begin, I want to acknowledge my own background and experiences that may influence this discussion. I am a registered nurse in Botswana currently pursuing my masters in emergency and trauma nursing. This awareness helps me approach our conversation with openness and neutrality."

- **During the Interview:**

  As we talk, I may share my perspectives to clarify my understanding or to ensure that I'm interpreting your responses accurately. If at any point my background seems to shape our conversation, please feel free to point that out.

Interview Questions:

1. Tell me about your experience working in EMS in Kasane
2. Probing question
3. How does your workload affect job satisfaction?
4. Probing question
5. Tell me about the challenges you face as Ems staff
6. What coping strategies and support systems do you use to improve your work experiences?

Conclusion:

- Thank you for your time and insights.
- Are there any final thoughts you may wish to share?

Appendix F: Letters

Request letter for apermission to conduct the study

P. O. Box 1729

Molepolole, Botswana

20 August 2024

The Chairperson

Biomedical Research Ethics Committee

University of Zambia

P. O. Box 50110

Lusaka, Zambia

u. f. s: The Dean, School of Nursing Sciences

Assistant Dean Post-graduates, School of Nursing Sciences

Dear Sir/Madam

RE: APLLICATION FOR THE ETHICS CLEARANCE OF A RESEARCH PROPOSAL

The above refers;

As a student studying emergency and trauma nursing in University of Zambia, I am expected to have done research to meet my program criteria. I am submitting my study proposal: Experiences of emergency medical service staff on delivery of emergency medical services at Kasane, Botswana.

Hoping for my application to be considered.

Yours Faithfully

Leatile Gareitse

+26771563732/+260765451832 leatilegareitse@yahoo.com

Request letter to conduct research

P. O. Box 1729

Molepolole, Botswana

20 August 2024

The Chairperson
Research and Development Division
Ministry of Health
Private Bag 0038 Kasane, Botswana

u.f.s: Dean, University of Zambia, School of Nursing Sciences

Dear Sir/Madam

RE: REQUEST TO CONDUCT STUDY IN KASANE EMS, KASANE DHMT

The above matter refers;

I am pursuing my Masters in emergency and trauma nursing in University of Zambia and one of the criteria to finish is to conduct study research which I intend on doing it in Kasane Botswana. I am submitting the study proposal titled: Experiences of emergency medical service staff on delivery of emergency medical services at Kasane, Botswana for evaluation and approval so that I can move to next stage.

Hoping for my application to be considered.

Yours Faithful

Leatile Gareitse

+26771563732/+260765451832 leatilegareitse@yahoo.com

Request letter to conduct research

P. O. Box 1729

Molepolole, Botswana

20 August 2024

Head of Research Board

Kasane RHMT

P. O. Box 3

Kasane, Botswana

u. f. s: Dean, University of Zambia, School of Nursing Sciences

Dear Sir/Madam

RE: REQUEST TO CONDUCT A RESEARCH STUDY AT KASANE EMS, KASANE DHMT

The above matter refers;

I am a student doing my masters in emergency and trauma nursing in University of Zambia and as my program criteria to be meet, I have to do my research study. This is my study proposal with the title Experiences of emergency medical service staff on delivery of emergency medical services at Kasane, Botswana for your evaluation and approval so that I can move to the next stage.

Hope that my application will be considered.

Yours Faithfully

Leatile Gareitse

+26771563732/+260765451832 leatilegareitse@yahoo.com

Approval letter from UZABREC

UNIVERSITYOFZAMBIA
BIOMEDICALRESEARCHETHICSCOMMITTEE
Telephone: +260 977925304 Ridgeway Campus Telegrams: UNZA, LUSAKA P.O. Box 50110 Telex: UNZALU ZA 44370 Lusaka, Zambia
Fax: + 260-1-250753 E-mail: unzarec@unza.zm
Federal Assurance No. FWA00000338 IRB00001131 of IORG0000774 NHRAR-REC No 2021-05-0002

26th November, 2024

Your REF. No. 5757- 2024.

Mr. Leatile Gareitse,
University of Zambia,
School of Nursing,
PO Box 50110,
Lusaka.

Dear Mr. Gareitse,

RE: PROPOSED STUDY OF EXPERIENCES OF EMERGENCY MEDICAL SERVICE STAFF ON DELIVERY OF EMERGENCY MEDICAL SERVICES AT KASANE, BOTSWANA (REF. NO. 5757-2024)

The above-mentioned research proposal was presented to the Biomedical Research Ethics Committee on 26th November, 2024. The proposal is **approved**. The approval is based on the following documents that were submitted for review:

- **a) Study proposal**
- **b) Questionnaires**
- **c) Participant Consent Form**

APPROVAL NUMBER : REF. No. 5757-2024.

This number should be used on all correspondence, consent forms and documents as appropriate.

i. **APPROVAL DATE : 26th November 2024** ii. **TYPE OF APPROVAL : Standard** iii. **EXPIRATION DATE OF APPROVAL : 25th November 2025**

iv. After this date, this project may only continue upon renewal. For purposes of renewal, a progress report on a standard form obtainable from the UNZABREC Offices should be submitted one month before the expiration date for continuing review.

v. **SERIOUS ADVERSE EVENT REPORTING**: All SAEs and any other serious challenges/problems having to do with participant welfare, participant safety and study integrity must be reported to UNZABREC within 3 working days using standard forms obtainable from UNZABREC.

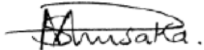
vi. **MODIFICATIONS**: Prior UNZABREC approval using standard forms obtainable from the UNZABREC Offices is required before implementing any changes in the Protocol (including changes in the consent documents).

vii. **TERMINATION OF STUDY**: On termination of a study, a report has to be submitted to the UNZABREC using standard forms obtainable from the UNZABREC Offices.

viii. **NHRA:** You are advised to obtain final study clearance and approval to conduct research in Zambia from the National Health Research Authority (NHRA) before commencing the research project.

ix. **QUESTIONS**: Please contact the UNZABREC on Telephone No. +260977925304 or by e-mail on unzarec@unza.zm.

x. **OTHER**: Please be reminded to send in copies of your research findings/results for our records. You are also required to submit electronic copies of your publications in peer-reviewed journals that may emanate from this study. Use the online portal: unza.rhinno.net for further submissions. Yours sincerely,



Prof. Sody Mweetwa Munsaka, BSc., MSc., PhD
CHAIRPERSON
Tel: +260977925304
E-mail: s.munsaka@unza.zm

Approval from HRDC

TELEPHONE: 363 2500
FAX: 317 0155
TELEGRAMS: RABONGAKA
TELEX: 2818 CARE BD

REPUBLIC OF BOTSWANA

MINISTRY OF HEALTH
PRIVATE BAG 0038
GABORONE

REFERENCE NO: HPRD: 6/14/1 **08th January 2025**

Health Research and Development Committee

Notification of IRB Review: **New application**

Leatile Gareitse
P O Box 1729
Molepolole

Dear Leatile Gareitse

PROTOCOL TITLE: EXPERIENCES OF EMERGENCY MEDICAL SERVICE STAFF ON DELIVERY OF EMERGENCY MEDICAL SERVICES AT KASANE, BOTSWANA

Review Type: Expedited/ Health Research Development Division
Review Date: 07th January 2025
Approval Date: 08th January 2025
Effective Date: 08th January 2025
Expiration Date: 07th January 2026
Risk determination: Minimal Risk

Thank you for submitting new application for the above referenced protocol. **The permission is granted to conduct the study. Approval is for academic fulfillment only.**

This permit does not however give you authority to collect data from the selected sites without prior approval from the management. Consent from the identified individuals should be obtained where applicable.

The research should be conducted as outlined in the approved proposal. Any changes to the approved proposal must be submitted to the Health Research and Development Division in the Ministry of Health for consideration and approval.

Furthermore, you are requested to submit at least one hardcopy and an electronic copy of the report to the Health Research, Ministry of Health within 3 months of completion of the study. Approval is for academic fulfilment only. Copies should also be submitted to all other relevant authorities.

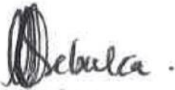
Continuing Review
In order to continue work on this study (including data analysis) beyond the expiry date, submit a Continuing Review Form for Approval at least three (3) months prior to the protocol's expiration date. The Continuing Review Form can be obtained from the Health Research Division Office (HRDD), Office No. 7A.7 or Ministry of Health website: www.moh.gov.bw or can be requested via e-mail from HRDD office, e-mail address: hhealthresearch@govbots.onmicrosoft.com. As a courtesy, the HRDD will send you a reminder email about eight (8) weeks before the lapse date, but failure to receive it does not affect your responsibility to submit a timely Continuing Report form.

Amendments
During the approval period, if you propose any change to the protocol such as its funding source, recruiting materials, or consent documents, you must seek HRDC approval before implementing it. Please summarize the proposed change and the rationale for it in the amendment form available from the Health Research Division Office (HRDD), Office No. 7A 7 or Ministry of Health website: www.moh.gov.bw or can be requested via e- mail from HRDD Office, e-mail address: hhealthresearch@govbots.onmicrosoft.com. In addition submit a copy of an updated version of your original protocol application showing all proposed changes in bold or "track changes".

Reporting
Other events which must be reported promptly in writing to the HRDC include:
- Suspension or termination of the protocol by you or the grantor
- Unexpected problems involving risk to subjects or others
- Adverse events, including unanticipated or anticipated but severe physical harm to subjects.

If you have any questions please do not hesitate to contact Mr. Abia Sebaka at asebaka@gov.bw, Tel +267-3632754 and Mr. K. Motlhanka at kgmmotlhanka@gov.bw, Tel +267-3632751. Thank you for your cooperation and your commitment to the protection of human participants in research.

Yours Sincerely



Abia Sebaka
for/Permanent Secretary

Approval from Chobe DHMT IRB

TELEPHONE 6250333/222
TELEGRAMS 6250304

MINISTRY OF HEALTH
PRIVATE BAG 0038
GABORONE

28 JANUARY 2025

Notification of IRB Review: **New application**

MR Leatile Gareitse

Dear Leatile Gareitse

PROTOCOL TITLE: EXPERIENCES OF EMERGENCY MEDICAL SERVICE STAFF ON DELIVERY OF EMERGENCY MEDICAL SERVICES AT KASANE, BOTSWANA

Review type: Expedited/Health Research and Development Division
Review Date: 28th January 2025
Approval Date : 28th January 2025
Effective Date: 28th January 2025
Expiration Date: 28th January 2026
Risk Determination: Minimal risk

Thank you for submitting new application for the above referenced protocol. The permission is granted to conduct the study. However, the researcher should ensure that consent is obtained from individuals identified where applicable.

The research should be conducted as outlined in the approved proposal. Any changes to the approved proposal must be submitted to the Health and Development Division in the Ministry of Health and also the Chobe Institutional Review Board team for consideration and approval.

Furthermore, you are requested to submit at least one (1) hardcopy and an electronic copy of the report to the Health Research, Ministry of Health Research, within 3 months of completion of the study. Approval is for academic fulfilment only. Copies should also be submitted to all the other relevant authorities.

Continuing Review

In order to continue work on this study(including data analysis)beyond the expiry date, submit a Continuing Review Form for approval at least three(3) months prior to the protocol 's expiration date. The continuing Review Form can be obtained from the Health Research Division Office(HRDD),Office no 7A.7 or Ministry of Health website: www.moh.gov.bw or can be requested via email from HRDD office, email address hhealthresearch@gov.bw or botshealthresearch@gmail.com. As a courtesy the HRDD will send you a reminder email about eight (8)weeks before the relapse date, but failure to receive it does not affect your responsibility to submit a timely Continuing Report Form.

Amendments

During the approval period ,if you propose any change to the protocol such as its finding source, recruiting materials or consent documents you must seek HRDC approval before implementing it.Please summarise the proposed change and the rationale for it in the amendment form available from the Health Research Division Office (HRDD),Office No 7a.7 or Ministry of Health website www.moh.gov.bw or can be requested via email from HRDD Office ,email address:hhealthresearch@gov.bw or botshealthresearch@gmail.com

In addition submit a copy of an updated version of your original protocol application showing all proposed changes in bold or ""track changes"''

Reporting

Other events which must be reported promptly in writing to the HRDC include;

- Suspension or termination of the protocol by you or the grantor
- Unexpected problems involving risk in subjects or others
- Adverse events including unanticipated or anticipated but severe physical harm to subjects.

If you have any questions please do not hesitate to contact Ms Portia Moyo at Portiamoyo@gmail.com Tel +267-6240052,Ms Elizabeth Maplanka at elisabethmaplanka@gmail.com TEL +267-625033/72191960

Thank you for your cooperation and your commitment to the protection of human subjects in research.

Yours Sincerely

Ms Portia Moyo
For/DHMT COORDINATOR