

**NURSES' EXPERIENCES WITH IMPLEMENTATION OF THE SEPSIS SIX CARE
BUNDLE IN INTENSIVE CARE UNIT AT KABWE CENTRAL HOSPITAL, IN
KABWE, ZAMBIA**

By

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**A dissertation submitted to the University of Zambia in partial fulfillment of the
requirements for the award of the degree of Master of Science in Critical Care
Nursing**

**The University of Zambia, Lusaka
February, 2025**

DECLARATION

I Remmy Phiri hereby declare that, to the best of my knowledge, this research is my original work and has never been submitted to this University or any other institution of higher learning for an academic award or publication. I hereby submit it for the award of a Master’s Degree in Critical Care Nursing by the University of Zambia.

Name Signature Date:

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CERTIFICATE OF COMPLETION OF DISSERTATION

This is to certify that **Remmy Phiri (2200020979)** has successfully completed and submitted the dissertation entitled: "**Nurses' Experiences with Implementation of the Sepsis Six Care Bundle in Intensive Care Unit at Kabwe Central Hospital, in Kabwe, Zambia**" in partial fulfillment of the requirements for the award of the degree of Master of Science in Critical Care Nursing at the University of Zambia. The dissertation was completed under the supervision of:

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ABSTRACT

Background: Sepsis remained to be a critical global health challenge, affecting approximately (49) million people and causing (11) million deaths annually. It was characterized by a deregulated host response to infection, leading to life-threatening organ dysfunction. Timely diagnosis, evidence-based care, and appropriate treatment were essential to improving patient outcomes, particularly in intensive care settings. This study explored nurses' experiences with implementation of the Sepsis Six Care Bundle in managing sepsis at Kabwe Central Hospital's Intensive Care Unit.

Methods: An explorative phenomenological study design was employed, Data collection involved in-depth interviews with 10 conveniently selected participants from Kabwe Central Hospital Intensive Care Unit, with audio recordings and field notes transcribed verbatim. Thematic analysis was conducted to generate codes and themes from the transcribed data.

Results: The findings revealed four major themes: Nurses' Approach to Sepsis Care, Collaborative Efforts in Sepsis Care, Strategies for Improving Sepsis Outcomes, Barriers to Effective Sepsis Management. Many nurses demonstrated limited familiarity with the Sepsis Six Care Bundle, leading to inconsistent implementation and variations in patient care. Additionally, resource constraints such as inadequate medical supplies, staffing shortages, and lack of continuous education programs further impeded its effective use. However, some enabling factors, including teamwork, leadership support, and access to protocols, facilitated improved adherence to sepsis management guidelines.

Conclusion: This study highlighted the challenges and enablers of implementing the Sepsis Six Care Bundle among ICU nurses at Kabwe Central Hospital. While some nurses were aware of the bundle, inconsistent application and limited familiarity were evident due to resource constraints, staffing shortages, and lack of continuous education. Teamwork, leadership support, and access to protocols were identified as key factors in improving sepsis management. To enhance patient outcomes and ICU efficiency, targeted training, resource allocation, and a strong support system are needed. The study recommends integrating structured training and optimizing resources for the successful, sustainable implementation of the Sepsis Six Care Bundle.

Key words: Nurses perspective, sepsis, six care bundle, ICU, implementation

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DEDICATION

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LIST OF ABBREVIATIONS

ART	Anti-retroviral therapy
CSO	Central Statistical Office
ZSA	Zambia Statistical Agency
NHRA	National Health Research Authority
SSCB	Sepsis Six Care Bundle
CCNAZ	Critical Care Nurses Association of Zambia
ICU	Intensive Care Unit
UK	United Kingdom
DMO	District Medical Office
GRZ	Government of the Republic of Zambia
HIV	Human Immune Deficiency Virus
KCH	Kabwe Central Hospital
MoH	Ministry of Health
SOFA	Sequential Organ Failure Assessment
SDGs	Sustainable Development Goals
WHO	World Health Organization
UNZABREC	University of Zambia Board of Research and Ethical Committee
SHEPIZ	Strengthening Health Professional Workforce Education Programs for Improved Quality Health Care in Zambia

CHAPTER ONE

1.0 INTRODUCTION AND BACKGROUND INFORMATION

1.1 Introduction

The Sepsis Six Care Bundle had been proven to reduce sepsis-related mortality but was often not effectively implemented due to various constraints (Daniels et al., 2021). Its implementation in clinical settings, particularly in resource-limited environments such as Zambia, remained a challenge. Chapter One provided background information on the study, presenting an overview of the research problem and highlighting the need for addressing it. It began with an introduction, followed by a discussion on the magnitude of the problem under study. then outlined the statement of the problem, provided the justification for the study, stated the research question, and concluded with the objectives of the study. Chapter One provided background information on the study, presenting an overview of the research problem and highlighting the need for addressing it. It began with an introduction, followed by a discussion on the magnitude of the problem under study. then outlined the statement of the problem, provided the justification for the study, stated the research question, and concluded with the objectives of the study.

1.2 Background Information

Sepsis, is defined as a syndrome of dysregulated host response to infection leading to life-threatening organ dysfunction (Kristina, 2018). Sepsis was a major global health concern, accounting for forty-nine million cases and eleven million deaths annually, representing one in five deaths worldwide (WHO, 2020). High-income countries like the United States, United Kingdom, and Germany report significant sepsis-related mortality despite advanced healthcare systems, with ICU patients being particularly vulnerable (Rudd et al., 2020). It was estimated that forty-four thousand one hundred deaths per year were attributable to sepsis in the United Kingdom, costing the national health service a projected seven billion seventy-six million pounds (Frankling, 2019). Countries such as Egypt, South Africa, and Algeria faced high sepsis incidences due to healthcare-associated infections and antimicrobial resistance (Reinhart et al, 2017). Zambia, Nigeria, and Uganda experience a disproportionate sepsis burden, with delays in diagnosis and treatment contributing to poor outcomes (Rello et al, 2019). Zambia, like many developing nations, struggles with inadequate ICU infrastructure, limited diagnostic tools, and high infection rates, worsening sepsis-related mortality.

Nurses played a crucial role in sepsis management, and their experiences with implementing the Sepsis Six Care Bundle at Kabwe Central Hospital's ICU provided valuable insights into existing challenges, barriers, and potential solutions. This study was important to improving patient outcomes, guiding policy on sepsis management, and strengthening critical care nursing in Zambia, ultimately reducing the national and regional burden of sepsis-related deaths. The Sepsis Six care bundle is the name given to a bundle of medical therapies designed to reduce mortality in patients with sepsis, drawn from international guidelines that emerged from the Surviving Sepsis Campaign, the Sepsis Six care bundle was developed by The UK Sepsis Trust. (Daniels, 2020) as a practical tool to help healthcare professionals deliver the basics of sepsis management rapidly and reliably. In 2021, The UK Sepsis Trust published evidence that the use of the Sepsis Six bundle was associated with a 50% reduction in mortality, a decreased length of stay in hospital, and fewer intensive care days. The Sepsis Six care bundle consists of three diagnostic and three therapeutic steps all to be delivered within one hour of the initial diagnosis of sepsis: The three key diagnostic steps were essential for early sepsis detection and management. Firstly, blood cultures would be taken before antibiotic administration to identify the causative pathogen and guide targeted therapy (Levy et al, 2018). Secondly, serum lactate levels would be measured, as elevated lactate (>2 mmol/L) indicated tissue hypoxia and increased risk of organ dysfunction (Evans et al, 2021). Lastly, monitoring urine output was crucial, as reduced output would signal worsening sepsis and impending organ failure, requiring immediate intervention to prevent progression to septic shock (Vincent et al, 2019). The three key therapeutic steps were aimed at stabilizing patients and improving survival outcomes. Firstly, broad-spectrum antibiotics would be administered within the first hour of sepsis recognition to combat the underlying infection and reduce mortality risk (Levy et al, 2019). Secondly, intravenous fluid resuscitation was essential to restore intravascular volume, improve tissue perfusion, and prevent septic shock, with crystalloids being the preferred choice (Evans et al, 2021). Lastly, oxygen therapy would be provided to maintain adequate oxygenation and prevent organ dysfunction, particularly in patients with respiratory distress or hypoxia (Vincent et al., 2019). Nurses' Perspectives with the implementation of sepsis management protocols were pivotal in enhancing patient outcomes, especially in intensive care units (ICUs).

A systematic review by (Hayajneh et al. 2022) explored nurses' knowledge, attitudes, practices, and perceived barriers related to early recognition and management of sepsis. The study revealed that while nurses generally possessed adequate knowledge and positive attitudes toward sepsis assessment and management, misconceptions persisted regarding antibiotic use and the inevitability of sepsis in critically ill patients. Another study by (Gustad et al, 2023) investigated the experiences of nurses and physicians following the implementation of a quality improvement project aimed at enhancing sepsis awareness in hospitals. The findings highlighted that increased sepsis awareness and interdisciplinary collaboration improved early identification and treatment of sepsis patients. Furthermore, an article in the *British Journal of Nursing* (2021) emphasized the critical role of nurses in the recognition and management of sepsis. The journal discussed how nurses' experience and prompt implementation of the 'sepsis six' within one hour of suspected sepsis could significantly improve patient outcomes. It also addressed the challenges nurses face, such as the need for ongoing education and support to maintain high standards of sepsis care. These studies collectively underscored the importance of nurses' experience and the effective implementation of sepsis management protocols in improving patient care in ICUs.

The implementation of the Sepsis Six Care Bundle in intensive care units (ICUs) in Zambia was a crucial intervention aimed at reducing sepsis-related mortality. Sepsis remained a major cause of morbidity and mortality in critically ill patients, and adherence to structured management protocols (like the sepsis six care bundle) significantly improved patient outcomes. The success of this bundle relied heavily on nurses' experience and their ability to identify, assess, and implement interventions in a timely manner. Nurses in the ICU played a pivotal role in the early recognition and management of sepsis, and their experience directly influenced patient survival as experienced nurses implemented the protocol more effectively. Research on Sepsis Six Care Bundle implementation in Zambian ICUs was critical as it provided evidence-based insights into the challenges, facilitators, and outcomes of protocol adherence. The purpose of this study was to assess the knowledge of ICU nurses regarding the Sepsis Six Care Bundle at Kabwe Central Hospital. It also aimed to examine their views on the effectiveness of its implementation in improving patient outcomes. Furthermore, the study sought to explore recommendations and identify strategies proposed by ICU nurses to enhance adherence and compliance with the Sepsis Six Care Bundle.

1.3 Statement of the Problem

Sepsis remained a leading cause of morbidity and mortality in intensive care units (ICUs) worldwide (WHO, 2023). Effective management through evidence-based protocols such as the Sepsis Six Care Bundle was essential in improving patient outcomes. However, the extent to which nurses implemented this bundle in the ICU at Kabwe Central Hospital remained unclear. Given the critical role nurses played in sepsis management, it was essential to assess their experiences with implementation of the protocol, and the challenges they encountered.

1.3.1 Table 1: Sepsis admissions in Kabwe Central Hospital ICU (2020 to 2024)

Year	Total Number of Patients admitted in ICU	Number of Patients diagnosed with Sepsis	Percentage(%)
2020	43	21	48.8
2021	35	17	48.6
2022	41	21	51
2023	39	16	41
2024	45	19	42

Kabwe Central Hospital Health Management Information Systems (HMIS)

Data from Kabwe Central Hospital (HMIS) in table (1) above indicated that the number of ICU admissions fluctuated over the past three years, with sepsis consistently accounting for nearly half of the cases. In (2020, 48.8%) of ICU patients were diagnosed with sepsis. Similar trends were observed in (2021, 48.6%) and (2022, 51%). Despite this high burden, there was limited information on nurses' experiences with implementation of the Sepsis Six Care Bundle, without a clear understanding of nurses' experiences with implementation of the Sepsis Six Care Bundle, efforts aimed at improve sepsis management and patient outcomes would be ineffective.

This study explored nurses' experiences with implementation of the Sepsis Six Care Bundle in the ICU at Kabwe Central Hospital and was very crucial as it directly impacted patient outcomes in the ICU, thereby identifying gaps that would inform strategies for improved sepsis care.

1.4 Justification of the Study

Studies exploring nurses' implementation and experiences with evidence-based protocols, such as the Sepsis Six Care Bundle, were crucial in improving patient outcomes and healthcare efficiency. Research had shown that early and effective management of sepsis significantly reduced mortality and morbidity in critical care settings (Rhodes et al, 2017). However, successful implementation depended largely on how well nurses adhered to protocols, their level of knowledge, and the challenges they face in clinical practice (Singer et al, 2016). Given that nurses were the primary caregivers in ICUs, understanding their experiences with sepsis management was important for identifying gaps in practice, enhancing training, and strengthening adherence to life-saving interventions. This study provided valuable insights into the extent to which nurses at Kabwe Central Hospital adhered to the Sepsis Six Care Bundle, the barriers they faced, and factors that influenced its effective implementation. It highlighted critical challenges such as resource limitations, workload pressures, knowledge gaps, and institutional support, which affected the nurse's implementation of the protocol. By bringing out these insights, the study aimed to recommend targeted interventions to improve nurses' competence and confidence in managing sepsis, ensuring that the Sepsis Six Care Bundle was effectively utilized to improve patient outcomes in ICU. The findings of this study are instrumental for the Ministry of Health and other key stakeholders, such as the Surgical Society of Zambia, the Critical Care Nursing Association, and the Anaesthetic and Emergency Medical Association of Zambia, in formulating policies to enhance sepsis management. By identifying gaps in implementation, the study informed evidence-based training programs, resource allocation strategies, and continuous professional development initiatives for nurses. Additionally, these findings would contribute to the body of knowledge in critical care nursing, providing a foundation for future research on protocol adherence and sepsis care improvements.

This study also addressed the United Nations Sustainable Development Goals (SDGs), particularly SDG 3 (Good Health and Well-being), SDG 4 (Quality Education), and SDG 9 (Industry, Innovation, and Infrastructure). SDG 3 was addressed by improving sepsis management, ultimately reducing ICU mortality and enhancing patient care. SDG 4 was supported through the study's focus on nursing education and training, ensuring that nurses were well-equipped with the necessary knowledge and skills for evidence-based practice. SDG 9 was linked to the study's potential impact on healthcare infrastructure, as findings would guide improvements in resource allocation and policy development for better sepsis care in ICUs. Exploring protocol implementation and nurses' experiences in clinical practice was very crucial at Kabwe Central Hospital. (Chanda et al, 2019) explored nurses' adherence to infection prevention protocols in surgical wards, revealing significant gaps due to resource constraints and training deficiencies. Similarly, (Mwansa et al, 2021) studied nurses' experiences with the implementation of the WHO Surgical Safety Checklist and found that while nurses recognized its importance, adherence was affected by institutional and workload challenges. Another study by (Phiri et al, 2022) which focused on the implementation of early warning scores in emergency care settings, highlighted the need for better training and systemic support to improve protocol adherence. Therefore, this study was unique because it specifically explored the Sepsis Six Care Bundle in the ICU, a critical area that had received limited attention in Zambia. Unlike previous studies that focused on general infection control or surgical protocols, this research directly addressed the challenges and experiences of nurses managing sepsis in a high-risk environment, making it a significant contribution to improving critical care nursing practice.

1.5 General Objective

To explore nurses' experiences with the implementation of the Sepsis Six Care Bundle in the Intensive Care Unit at Kabwe Central Hospital, Zambia.

1.5.1 Specific objectives

1. To assess the knowledge of ICU nurses regarding the Sepsis Six Care Bundle at Kabwe Central Hospital.
2. To examine ICU nurses' views on the effectiveness of implementing the Sepsis Six Care Bundle in improving patient outcomes.

3. To identify recommendations and strategies proposed by ICU nurses to enhance the implementation and compliance with the Sepsis Six Care Bundle.

1.6 Research Question

1. What are the experiences of ICU nurses with the implementation of the Sepsis Six Care Bundle at Kabwe Central Hospital?

1.7 Conceptual definitions of Terms

Nurses' Experiences: Refers to the subjective accounts, perceptions, and reflections of nurses based on their personal involvement, observations, and feelings related to clinical practice

Implementation: The process of putting a plan, decision, or guideline into effect in a real-world setting. In this study, it refers to how the Sepsis Six Care Bundle is introduced, integrated, and applied in ICU practice by nursing staff.

Sepsis Six Care Bundle: A set of six evidence-based medical interventions designed to be delivered within one hour to patients suspected of sepsis to reduce mortality.

Intensive Care Unit (ICU): A specialized hospital department providing comprehensive and continuous care for patients with life-threatening conditions.

Sepsis: A life-threatening organ dysfunction caused by a dysregulated host response to infection.

Quality of Care: The extent to which health care services provided to individuals and patient populations improve desired health outcomes.

Clinical Guidelines: Systematically developed statements to assist practitioner and patient decisions about appropriate healthcare for specific circumstances.

Health System Strengthening: Efforts to improve the performance of the health system through better health workforce education, tools, resources, and systems.

Workforce Capacity: The skills, knowledge, competencies, and resources available to health professionals to perform their roles effectively.

Patient Outcomes: The results of health care interventions on patients' health status, including recovery, survival, and satisfaction.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

The concept of structured sepsis management emerged in the early (2000s), culminating in the introduction of the Sepsis Six Care Bundle in (2006) (Daniels et al, 2017). This bundle consists of six key interventions designed to improve patient outcomes through timely and standardized sepsis care. Over the years, the implementation of this bundle had been widely studied in high-resource settings, demonstrating its effectiveness in reducing sepsis-related mortality. However, research in low-resource settings, such as Zambia, remained limited, necessitating a localized exploration of its implementation.

Chapter two started by outlining the origins of the Sepsis Six Care Bundle and the need for localized research in Zambia. Section two explored nurses' experiences with implementation, highlighting knowledge gaps, demographic influences, and psychological impacts. Section three and four examined nurses' understanding, exposure, challenges and facilitators affecting protocol implementation, including resource constraints and institutional support. Finally, it discussed nurses' interactions with the bundle's components, emphasizing training, clinical exposure, and emotional resilience, concluding with the need for Zambia-specific research. The sources of data for this study included reputable databases such as Google Scholar, PubMed, CINAHL, Science Direct, MedlinePlus, and the Cochrane Library, ensuring access to high-quality peer-reviewed articles, systematic reviews, and clinical guidelines related to the Sepsis Six Care Bundle. These sources provided a comprehensive foundation for exploring nurses' experiences with implementation of the sepsis six care bundle in intensive care settings.

2.2 Overview of Sepsis

Sepsis is a life-threatening condition that arises when the body's response to an infection triggers widespread inflammation, leading to tissue damage, organ failure, and potentially death. It could be caused by bacterial, viral, fungal, or parasitic infections, with the most common sources being pneumonia, urinary tract infections, intra-abdominal infections, and bloodstream infections (Rudd et al, 2020). The pathophysiology of sepsis involves a dysregulated immune response where pro-inflammatory and anti-inflammatory processes become unbalanced, resulting in increased vascular permeability, reduced oxygen delivery to tissues, and metabolic dysfunction (Singer et al., 2016). If not promptly recognized and treated, sepsis could progress to septic shock, characterized by severe

hypotension that does not respond to fluid resuscitation, leading to multi-organ failure and high mortality rates (Evans et al., 2021). Globally, sepsis remains a major cause of morbidity and mortality, particularly in low-resource settings where early detection and intervention were challenging. According to the World Health Organization (WHO, 2020), sepsis accounts for millions of deaths annually, with a disproportionate burden in sub-Saharan Africa due to high rates of infectious diseases, inadequate healthcare infrastructure, and limited access to advanced medical interventions. Effective sepsis management requires early recognition using standardized criteria such as the Sequential Organ Failure Assessment (SOFA) tool (Shankar-Hari et al., 2016). Timely interventions, including fluid resuscitation, appropriate antimicrobial therapy, and organ support, are essential in reducing mortality (Rhodes et al., 2017). However, despite the availability of clinical guidelines like the Surviving Sepsis Campaign, disparities in healthcare resources and variations in clinical practice continue to impact sepsis outcomes worldwide (Fleischmann et al., 2018).

2.3 Overview of the nurses' experiences with implementation of the sepsis six care bundle

Despite extensive research on the Sepsis Six Care Bundle, significant knowledge gaps persist, particularly in low-resource settings. Most studies focused on developed countries, neglecting the contextual barriers faced by nurses in resource-constrained ICUs. Research often emphasized physicians' roles in sepsis management, overlooking the frontline experiences of ICU nurses (Arulkumaran et al., 2016). While qualitative studies highlighted challenges, there was limited statistical analysis measuring adherence and its impact on patient outcomes in Zambia. Additionally, the stress and emotional toll on nurses managing sepsis cases remained underexplored, despite evidence suggesting that burnout could affect Implementation of protocols (Hernandez et al., 2018). The emotional burden of working in high-pressure ICU environments, combined with limited institutional support, could lead to decreased motivation and inconsistent application of sepsis protocols. Addressing these psychological challenges through targeted interventions, such as mental health support programs and structured debriefing sessions, would enhance adherence and improve overall patient outcomes. The demographic characteristics of ICU nurses, including age, years of experience, and professional roles, influenced their implementation of the Sepsis Six Care Bundle. Younger nurses (25–35 years) were more inclined to following standardized protocols due to recent academic exposure, while older nurses (36–50 years) often relied on clinical judgment shaped by experience (Benner, 2019). The younger nurses would embrace evidence-based guidelines more readily, whereas the older nurses would integrate the bundle with personal clinical insights,

potentially leading to variations in adherence (Meddings et al, 2015). The years of ICU nurses experience suggested that nurses who had greater ICU experience developed enhanced pattern recognition skills, improving early sepsis detection (Thompson et al., 2019). However, implementation of the Sepsis Six bundle was not solely dependent on experience; continuous training and reinforcement of best practices were essential to ensure consistent and timely implementation of the sepsis care bundle (Daniels et al., 2011). Additionally, studies highlighted that experienced nurses would exhibit resistance to rigid protocols if they perceive them as conflicting with clinical intuition, emphasizing the need for leadership support and ongoing education (Schorr et al., 2016). The diversity in nurse's roles, (staff nurses and Charge nurses) had an influence on the implementation of the care protocols (Cronshaw et al., 2018). Effective implementation of the care protocols required collaboration across these roles, with leadership engagement playing a key role in fostering compliance (Mason et al., 2020). Hierarchical dynamics and varying levels of authority within ICU teams could impact how strictly the bundle was followed, reinforcing the importance of structured mentorship and a supportive work environment. Thus, demographic factors such as age, experience, and professional roles directly shaped how nurses engaged with care protocols like the sepsis six care bundle, influencing both implementation and overall effectiveness.

2.4 Nurses' knowledge of the Sepsis Six Care Bundle implementation

Studies indicated that ICU nurses played a pivotal role in early sepsis recognition and timely intervention, which were critical for patient survival (Vincent et al., 2018). However, studies showed significant variability in nurses' understanding of the bundle, with knowledge gaps impacting implementation fidelity. Burrell et al. (2016) stated that "many nurses lacked a comprehensive understanding of the Sepsis Six Bundle, which lead to inconsistent application in clinical practice." Despite continuous training efforts, disparities in nurses' exposure to the Sepsis Six elements remain a challenge in various healthcare systems (Huang et al., 2019). Critically, the validity of literature on ICU nurses' experience of the Sepsis Six Care Bundle was limited by inconsistencies in study methodologies. Many studies relied on self-reported data, which would introduce bias and overestimation of knowledge levels (Labeau et al., 2017). Additionally, research often focused on high-resource settings, neglecting low- and middle-income countries where implementation barriers

differed significantly. Fletcher et al, (2020) noted that "resource disparities significantly impacted implementation of sepsis management protocols.

2.5 Nurses perceived effectiveness of the Sepsis Six Care Bundle implementation in improving patient outcomes

Multiple studies explored the barriers and facilitators affecting Sepsis Six Care Bundle implementation in ICU settings. Key barriers included limited resources, inadequate staffing, lack of standardized protocols, and insufficient training opportunities (Roberts et al., 2020). Organizational challenges, such as workflow inefficiencies and resistance to change, further impeded implementation of sepsis guidelines. Chowdhury et al. (2017) reported that "nurses often cited heavy workloads and time constraints as major obstacles to following sepsis protocols consistently." Conversely, studies highlighted that institutional support, continuous education, and interdisciplinary collaboration served as critical facilitators (Sterling et al., 2015). A supportive culture and leadership engagement would enhance compliance and improve patient outcomes (Parker et al., 2019). Despite the growing body of research, gaps remained in understanding the nuanced barriers faced by ICU nurses, particularly in resource-constrained settings. While studies predominantly focused on physicians' perspectives, limited research were conducted specifically on nursing challenges and facilitators (Arulkumaran et al., 2016). The lack of region-specific evidence further limited the generalizability of existing findings. Grol et al. (2016) emphasized that "nurses' perspectives on the barriers to sepsis care were often overlooked, despite their crucial role

2.6 Experiences of nurses with the components of the Sepsis Six Care Bundle

Experiential research on ICU nurses' interactions with the Sepsis Six Care Bundle highlighted the critical role of clinical experience and training in effective implementation. Studies revealed that nurses who frequently managed septic patients developed greater confidence and efficiency in applying the bundle's components (Singer et al., 2016). Positive experiences, including successful patient outcomes, reinforced adherence and motivated nurses to advocate for timely sepsis interventions. Evans et al. (2021) documented that "nurses who observed improved patient outcomes after implementing the Sepsis Six reported greater motivation to adhere to the bundle consistently." However, exposure to high patient loads and lack of institutional support often resulted in burnout

and suboptimal bundle implementation (Lat et al., 2019). The validity of research on ICU nurses' experiences with implementation of the Sepsis Six Care Bundle was influenced by variability in healthcare systems and institutional policies.

While qualitative studies provided rich insights into nurses' lived experiences, limited quantitative data exist to measure bundle adherence rates and their correlation with clinical outcomes (Hernandez et al., 2018). Additionally, existing literature often overlooked the emotional and psychological burden associated with sepsis management. Hall et al. (2018) stated that "nurses frequently experienced emotional distress due to the high mortality rates associated with sepsis, which could impact adherence to protocols.

2.7 Conclusion

In Conclusion, the literature review presented varying perspectives on ICU nurses' experiences with implementation of the Sepsis Six Care Bundle, studies from high-resource settings emphasized protocol adherence and structured training, while research in low-resource settings highlighted: staffing shortages, inadequate resources, and inconsistent implementation. Additionally, while some studies focused on nurses' clinical decision-making and knowledge gaps, others stressed the role of leadership and institutional policies in improving compliance. However, limited research existed on ICU nurses' specific experiences in southern Africa, particularly in Zambia. This study addressed this gap by providing localized insights into the nurse's experiences with implementation of the Sepsis Six care bundle, offering context-specific recommendations to enhance sepsis management in resource-constrained settings.

CHAPTER 3

3.0 RESEARCH METHODOLOGY

3.1 Introduction

This research methodology addressed methods which included the research design, sampling, sampling procedures, samples size, variables, instruments, data collection techniques, protection of human subjects and data analysis. This study had no attempt to test predetermined hypothesis of the researcher; rather the aim was to explore flexibly and in detail the nurses experience with implementation of the sepsis six care bundle. Hence no conceptual framework was referred to.

3.2 Research Design

In this study, the researcher used an Explorative Phenomenological study design, this design was selected because the researcher was trying to explore the nurses' experiences with implementation of the sepsis six care bundle in intensive care unit at Kabwe Central Hospital, how they were making sense of it in their personal and social world. Experience among nurses was a phenomenon that needed to be studied in-order to fully understand the factors about sepsis six care bundle implementation among nurses.

3.3 Study Setting

The study was conducted at Kabwe Central Hospital in Kabwe district which is situated in the Central province of Zambia. Kabwe is about (141) kilometers away from Lusaka on the Great North Road. The population was estimated at (225,227) with an annual growth of rate of (1.4) percent (ZSA, 2017 Population Projection). The estimated population density for Kabwe was (142.2) percent per square kilometer (ZSA, 2018). Kabwe Central Hospital is the highest referral Central Hospital in Central Province with a bed capacity of (550) and an (8)-bed capacity ICU and also recorded high numbers of patients with sepsis. The study setting was conveniently selected because it had an ICU and most of the patients with sepsis in Central province were referred to Kabwe Central Hospital

3.4 Study Population

The study population included all nurses working at Kabwe Central hospital.

3.5 Target Population

The target population for this study comprised of all nurses involved in the care and management of patients diagnosed with sepsis, utilizing the Sepsis Six Care Bundle in ICU

3.7 Sample selection

Convenient sampling was used to select the study participants. This was conducted by selecting all Nurses who were working in ICU and were directly involved with implementation of the sepsis six care bundle.

3.7.1 Inclusion criteria

Nurses who were working in ICU and were directly involved with implementation of the sepsis six care bundle that were reachable during the data collection period and provided informed consent to participate in the study.

3.7.2 Exclusion criteria

Nurses who were sick during the period of the study, Nurse who were not willing to participate in the study and those nurses who did not consent to participate in the study.

3.8 Sample Size

For this study, a total of (10) nurses working in the ICU at Kabwe Central Hospital were recruited as participants. Data saturation was reached at (8), as no new themes or perspectives emerged beyond this point. Creswell (2019) suggested that a sample size of 3 to 25 participants is sufficient for phenomenological studies, and many studies report saturation between 10 and 15 participants, hence was adopted in this study.

3.9 Data Collection Tool

An in-depth interview guide was used as the primary data collection instrument, which was adopted from Cronbach's Alpha to ensure reliability and internal consistency. This guide was designed to explore nurses' experiences regarding the implementation of the Sepsis Six Care Bundle in the Intensive Care Unit (ICU) at Kabwe Central Hospital. The interview guide was structured into two sections: demographic characteristics, and a core question followed by prompts to facilitate deeper exploration of key themes, ensuring comprehensive data collection tailored to the clinical setting.

3.10 Data Collection Techniques

Data was collected by interviewing each study participant face to face by asking one core question that was followed by prompt questions from their responses. The researcher interviewed 2 Nurses per day. Data was collected from Nurses who had worked in ICU at Kabwe Central Hospital. The interviews were held in a private place within ICU. Each interview lasted for about 30- 45 minutes. The researcher began by introducing himself to each study participant. The participants were assured of anonymity and confidentiality which was upheld by using serial numbers and not their names on the interview schedules. The purpose of the study was clearly explained to the participants, and an information sheet was read and provided for them to read. Following this, they were asked to sign the Consent Form to indicate their voluntary participation.

3.11 Ensuring the Rigor and Quality of the Data Collection Process and the Tool

The researcher was able to bracket himself during the data collection process in-order to ensure that the quality of the data collection process and the tool were maintained.

3.11.1 Trustworthiness

The Researcher ensured to maintain trustworthiness of the study by abiding by the laid down strategies documented below.

3.11.2 Bracketing

An exploratory phenomenological research design, as described by Creswell (2019), defines bracketing as the process of distancing the researcher's preconceived ideas, beliefs, and assumptions about the phenomenon under study. The researcher employed this by separating their personal experiences and biases from the data, ensuring a more accurate and unbiased understanding of the participants' perspectives. Bracketing was a crucial step, as it helped prevent the researcher from influencing the data collection and analysis. By focusing solely on the participants' experiences, the researcher actively worked to set aside personal preconceptions throughout the study. This allowed the study participants to share their experiences with the implementation of the 'Sepsis Six Care Bundle', without fear, favour or influence from the researcher.

3.11.3 Credibility

This study implored in-depth face-to-face interviews with each study participant. During these interviews, the researcher will be writing down field notes from each study participant. After each interview, the researcher will go through the field notes by reading and re-reading the notes with each participant to ensure correct documentation and comprehensive understanding of the participant's knowledge, practices, and experiences on 'Sepsis Six Care Bundle' among Nurses in Intensive Care Unit at Kabwe Central Hospital, without fear, favour or influence from the researcher

3.11.4 Transferability

The researcher provided an in-depth description of the research methodology that included the study design, the participants, the tool and the study setting. This information enabled the readership especially those who would intend to conduct similar studies to assess the transferability of the study findings to different study populations and locations.

3.11.5 Dependability

In this study, the researcher ensured dependability of the research process by documenting the process very clearly for the readership. This included a clear explanation of the research design, the data collection technique, data presentation and analysis. The research process ensured that the study's findings were referred or traced back for verification purposes. The face –to face individual interviews were audio-recorded and verbatim transcription for data analysis was also done. To guarantee the consistency and stability of the results, the data analysis procedure comprised of coding, categorizing the data, deriving subthemes and finally the main theme for the study.

3.11.6 Confirmability

On completion of the Research Proposal, the Researcher, on recommendation from the supervisor presented the study proposal to the Department were experts on this field (explorative phenomenological study design) peer reviewed the research proposal by examining the research methodology and plan for data presentation and analysis. This was followed by identifying and correcting any shortcomings in the study. This process encompassed objective evaluation of the research thus ensuring the trustworthiness of the research.

In summary, these trustworthiness considerations aimed to enhance the credibility, transferability, dependability, and Confirmability of the study findings, thus increasing the research quality.

3.12. Pilot Study

A pilot study was conducted at Kabwe mine hospital High dependency unit in Kabwe district which was conveniently selected because it was homogenous to the study setting. The sample size for pilot study was 1 which was 10% of the study sample. After the pilot study, amendments were made to refine the tool accordingly as follows: Some questions were found to be vague or open to multiple interpretations. These were reworded to ensure clarity and improve respondent understanding. The sequence of questions was adjusted to follow a more logical flow, beginning with general demographic information, followed by knowledge-based, attitude, and practice-related questions. The language used in some parts of the tool was simplified to ensure it was easily understandable, especially for respondents with varying levels of education. The layout and spacing were adjusted to make the questionnaire more user-friendly and easier to navigate during completion. Based on the pilot participant's feedback, some questions required additional answer choices to capture the full range of possible responses. A few questions that were repetitive or did not add value to the objective of the study were either revised or removed.

3.13. Ethical and Cultural Considerations

Permission to conduct the research study was sought from UNZABREC and the Dean –school Nursing Sciences at the university of Zambia. Clearance and authorization was sort to conduct research from National Health Research Authority (NHRA). Written permission was sort from Senior Medical Superintendent for Kabwe Central Hospital and written consent was obtained from the respondents after explaining the purpose and nature of the study to them. Respondents were assured of anonymity and confidentiality. The participants were informed that they could withdraw from the study at any time without suffering any consequences Anonymity and confidentiality of participants was considered as no names but only serial numbers were recorded.

All collected data were handled with strict confidentiality and securely stored to protect participant information. Completed questionnaires were reviewed for completeness and accuracy before being securely stored in a locked cabinet accessible only to the research team. Digital data, including transcriptions and coded responses, were stored on a password-protected computer. Only serial

numbers were used to identify responses, ensuring participants' anonymity throughout the process. Backup copies were maintained on an encrypted external drive to prevent data loss. All data would be kept for a period of five years, after which it would be securely destroyed in accordance with ethical research guidelines.

CHAPTER 4

4.0 DATA ANALYSIS AND PRESENTATION OF FINDINGS

4.1 Introduction

This chapter presented the data gathered from the semi-structured interviews. Data presentation was structured around key themes and subthemes derived from in-depth interviews, providing insights into nurses' experiences with implementation of the Sepsis Six Care Bundle. Ultimately, the presentation offered a holistic view of the Sepsis Six Care Bundle, considering individual Nurses perspectives, institutional factors, and the broader healthcare context to inform improvements in sepsis care and nursing practice.

This chapter included brief summaries of the ten participant's demographic information to allow for a better understanding of each Nurse's unique perspectives, and provided a space for each of their voices and experiences to be acknowledged and honored as contributions to this study as intended in phenomenological work.

4.2 Table 2: Demographic Characteristics of Participants (N=10)

Code	Gender	Age	Role in ICU	Average years of Experience in ICU
P1	M	50	Staff Nurse	5 years and above
P2	F	55	Charge Nurse	5 years and above
P3	F	29	Staff Nurse	4-5 years
P4	F	30	Staff Nurse	Below 1 year
P5	F	28	Staff Nurse	4-5 years
P6	F	29	Staff Nurse	2-3 years
P7	F	28	Staff Nurse	1-2years
P8	F	33	Nurse Practitioner	1-2years
P9	M	25	Staff Nurse	2-3 years
P10	F	32	Staff Nurse	Below 1 year

4.3 Presentation of Findings

Through in-depth interviews, four themes were identified that reflected the ICU nurses experience with implementation of the sepsis six care bundle on nursing practice. Themes covered Nurses' Approach to Sepsis Care, Collaborative Efforts in Sepsis Care, Strategies for Improving Sepsis Outcomes, Barriers to Effective Sepsis Management. Each theme was presented with verbatim quotes from participants to capture their lived experiences.

This presentation provided insights into the factors that facilitated or hindered effective use of the Sepsis Six care bundle in critical care settings. Ultimately, the presentation offered a comprehensive view of how the Sepsis Six bundle affected sepsis care and highlighted areas for improvement

4.3.1 Table 3: Themes, Subthemes and Description

Theme	Subtheme	Description
Nurses' Approach to Sepsis Care	- Initial assessment and triage	- Nurses emphasized rapid identification and prioritization of sepsis cases.
	- Administration of life-saving interventions	- Timely initiation of Intravenous fluids, oxygen therapy, and antibiotics was crucial.
	- Monitoring and documentation	- Continuous patient monitoring and record-keeping guided treatment decisions.
Collaborative Efforts in Sepsis Care	- Interdisciplinary teamwork	- Cooperation between nurses, doctors, and laboratory staff was essential.
	- Communication and handover protocols	- Effective information sharing improved continuity of care.
	- Support from hospital administration	- Nurses highlighted the importance of leadership support in addressing challenges.
Strategies for Improving Sepsis Management	- Implementation of standardized protocols	- Establishing clear guidelines would enhance efficiency in care delivery.
	- Strengthening infection prevention measures	- More emphasis on hygiene practices and proper wound care was needed.
	- Continuous professional development	- Regular workshops and refresher courses would keep nurses updated on best practices.
Barriers to Effective Sepsis Management	- Limited diagnostic tools	- The unavailability of quick lab results hampered timely interventions.
	- Staffing constraints	- High patient-to-nurse ratios impacted the ability to provide optimal care. - High patient acuity led to emotional exhaustion.

4.3.2 Theme 1: Nurses' Approach to Sepsis Six Care Bundle

This theme highlighted the ICU nurses' engagement with sepsis six care bundle, specifically focusing on their knowledge, understanding, and application of the Sepsis Six Care Bundle. While nurses actively participated in managing sepsis, many expressed uncertainties about the complete application of the Sepsis Six. Despite this, their dedication to sepsis management and their swift response in clinical settings were clear.

4.3.2.1 Subtheme 1.1: Initial Assessment and Triage

Nurses emphasized the critical importance of early sepsis detection. However, while they understood the signs to look for, including fever, wounds, and changes in vital signs like blood pressure and temperature, there was some uncertainty about the full application of the Sepsis Six during the initial assessment. Nurses consistently highlighted the importance of swift sepsis identification. Participants explained that:

“Early detection is crucial. We first check for fever, observe wounds, and identify the source of infection.” P 5

“When we suspect sepsis, we act fast because any delay can lead to deterioration.” P1,

“I’m not always sure if I’m following the full Sepsis Six protocol during the first assessment.”. P3

“The challenge is that we’re often unsure if we’re doing all the steps correctly, but we prioritize the most critical ones.” P8

“When we have a clear diagnosis, it’s easier to follow the Sepsis Six, but in unclear cases, we’re more cautious.” P4

“I feel confident in identifying early signs, but I sometimes doubt whether we’re doing everything in the right order for the Sepsis Six.” P6

“We rely on vital signs like temperature and blood pressure to identify patients at risk,” P7

“I’m not sure if I’m capturing all the necessary data from the Sepsis Six checklist, but we do our best. P 10”

This highlighted the nurses' instinctive response to sepsis while also revealing uncertainty in fully applying the Sepsis Six at the triage stage. Although their approach aligned with clinical practice, there were concerns about whether every element of the Sepsis Six protocol was being followed during patient assessments. The urgency of early intervention was evident, with clinical parameters guiding the identification of sepsis risk. Vital signs were consistently monitored, yet there was uncertainty about whether this approach fully adhered to the Sepsis Six care bundle. While there was

a strong understanding of early detection, integrating the full protocol into initial assessments remained a challenge.

4.3.2.2 Subtheme 1.2: Administration of Life-Saving Interventions

Nurses emphasized the timely administration of interventions such as fluid resuscitation, antibiotics, and oxygen therapy, recognizing their critical role in sepsis management. Despite carrying out these interventions, there was uncertainty about whether they were fully implementing the Sepsis Six care bundle in a structured manner. They explained that:

"Once we confirm sepsis, we immediately start fluid resuscitation and initiate antibiotics based on sensitivity tests." P5

"I'm not sure if we are fully following all the Sepsis Six steps when it comes to antibiotics and fluids, but we prioritize these actions anyway."P8

"Administering IV fluids early prevents shock, which is why we prioritize it."P10

"I know we give fluids, but I don't always think about other Sepsis Six care bundle components like blood cultures or the timing of other interventions."P2

"We make sure oxygen therapy is provided as needed to support breathing and organ function."P4

"I'm not always sure about the exact timing or dosage according to the Sepsis Six care bundle, but we make sure the patient is stabilized."P7

This highlighted the nurses' commitment to life-saving interventions while revealing uncertainty about their adherence to the complete Sepsis Six protocol. Although their approach prioritized immediate patient needs, there were concerns about whether all components of the bundle were systematically followed. The emphasis on fluid resuscitation, antibiotics, and oxygen therapy demonstrated a strong clinical response to sepsis, yet a lack of structured guidance on the Sepsis Six care bundle created doubt. While nurses played a crucial role in preventing shock and supporting organ function, their confidence in fully implementing the bundle remained limited.

4.3.2.3 Subtheme 1.3: Monitoring and Documentation

Continuous monitoring and thorough documentation were recognized as essential in managing sepsis patients. However, there was uncertainty about whether documentation practices fully aligned with the Sepsis Six Care Bundle. They explained that:

"We monitor temperature, urine output, and response to antibiotics closely."p3

"We focus on temperature and urine output, but I'm not sure if we monitor everything outlined in the Sepsis Six care bundle."p9

"Keeping accurate records helps us track progress and adjust treatment accordingly." p1

"However, I sometimes wonder if we are documenting everything required by Sepsis Six, or if we miss some important points." p5

"Documentation is key because it helps the team coordinate care and make informed decisions." p10
"The longer we wait for diagnostic results, the more critical the situation becomes, and it's frustrating not being able to act right away." P3

"Timely diagnostic results are essential for making the right decisions quickly, but sometimes the wait is too long." P7

"Access to quicker diagnostics would help us make better decisions sooner, which could ultimately save lives." P6
"I'm not always sure if I'm following all the steps in Sepsis Six when it comes to documenting, but I do try to include all the critical information." p8

This highlighted the nurses' commitment to monitoring and documentation while also revealing uncertainty about their adherence to the full Sepsis Six documentation guidelines. While nurses understood the importance of tracking vital signs and patient responses, doubts remained about whether all elements of the bundle were being consistently recorded. The role of documentation in guiding treatment adjustments and coordinating care was well recognized, yet concerns persisted about the completeness of records in alignment with the Sepsis Six care bundle.

4.3.3.0 Theme 2: Collaborative Efforts in Sepsis Care

This theme explored how ICU nurses at Kabwe Central Hospital experienced collaboration in sepsis care, focusing on interdisciplinary teamwork, communication, handover protocols, and support from hospital administration. While nurses acknowledged that teamwork was essential in sepsis management, they also expressed challenges in coordination, communication gaps, and varying levels of support from hospital leadership.

4.3.3.1 Subtheme 2.1: Interdisciplinary Teamwork

Nurses emphasized the critical role of collaboration among healthcare professionals, including doctors, laboratory staff, and fellow nurses, in ensuring effective sepsis management. While teamwork facilitated patient care, inconsistencies in coordination and occasional delays in response were reported. They explained that:

*"Sepsis management is not a one-person job. We work together with doctors, lab technicians, and other staff to make sure patients get the right treatment on time."*p5

*"Sometimes, there are delays in getting lab results or orders from doctors, which can slow down treatment."*p3

*"Doctors may be handling multiple emergencies, so we have to keep following up to get sepsis cases prioritized."*p2

*"We depend on the lab for blood cultures and other tests, but sometimes there are delays, and we have to start antibiotics before results come back."*p9

This highlighted the importance of interdisciplinary teamwork while also revealing challenges in coordination. Although nurses worked closely with doctors and laboratory staff to ensure timely treatment, delays in lab results and medical orders created barriers to prompt sepsis management. Differences in priorities among healthcare team members sometimes affected the efficiency of interventions, underscoring the need for a more structured approach to collaboration. Nurses recognized that timely lab results were crucial for guiding treatment decisions, and improved coordination between nursing and laboratory teams was necessary to enhance the effectiveness of sepsis care. While teamwork was valued, a more systematic approach was needed to fully support timely and efficient sepsis interventions.

4.3.3.2. Subtheme 2.2: Communication and Handover Protocols

Effective communication among healthcare professionals was essential in ensuring continuity of care for septic patients. However, inconsistencies in handovers and unclear communication sometimes led to gaps in patient management. They explained that:

*"During shift changes, we make sure to update the next team about septic patients, including their vitals, fluids, and antibiotics."*p10

*"Not everyone provides the same level of detail in handovers, and sometimes we have to go back and check the records ourselves."*p8

*"There are times when lab results are ready, but we don't get informed on time, so treatment is delayed."*p6

"Sometimes, verbal instructions from doctors are not clear, and we have to ask multiple times for clarification." p3

"If we had an electronic system for patient records, it would be easier to track what has been done and what still needs attention." p1

This highlighted the role of effective communication in ensuring seamless patient care while also revealing challenges in handovers and information-sharing. While patient updates were a routine part of shift changes, the level of detail varied, sometimes requiring nurses to verify information independently. Breakdowns in communication occasionally led to treatment delays, particularly when lab results were not relayed in a timely manner or when verbal instructions lacked clarity. Some nurses suggested that an electronic patient record system could enhance communication and streamline handovers, ensuring better coordination of care. While effective communication contributed to improved patient outcomes, inconsistencies in handover practices and delays in information-sharing hindered the smooth delivery of sepsis care.

4.3.3.3. Subtheme 2.3: Support from Hospital Administration

Hospital leadership played a crucial role in facilitating sepsis care by ensuring the availability of resources, policies, and training opportunities. While nurses acknowledged some support from administration, they also highlighted areas that needed improvement. They explained that:

"When we have all the necessary drugs and equipment, managing sepsis is easier." P2

"Sometimes we run out of certain antibiotics, and we have to use alternatives that may not be as effective." P3

"Regular refresher courses on sepsis care and the Sepsis Six care bundle would help us feel more confident in our practice." P8

"If there were clear hospital guidelines on how we should implement the Sepsis Six, it would make things easier for us." P9

"We report issues like delayed lab results or shortages of drugs, but sometimes it takes a long time for any changes to happen." P7

This highlighted the importance of administrative support in resource allocation, training, and policy development while also revealing challenges in implementation. Nurses emphasized that having a consistent supply of IV fluids, antibiotics, and diagnostic tools was critical for effective sepsis management. However, shortages of essential medications sometimes led to the use of less effective alternatives, impacting patient care. While they valued administrative efforts, they felt that leadership needed to be more proactive in addressing operational challenges, such as delays in lab results and inconsistent drug supplies. To strengthen support, nurses recommended that hospital administration ensure a reliable supply of essential resources, implement structured training programs, and actively address operational inefficiencies affecting sepsis management

4.3.4.0 Theme 3: Strategies for Improving Sepsis Management

This theme explored the strategies ICU nurses at Kabwe Central Hospital identified as essential for improving sepsis Management. The focus was on implementing standardized protocols, strengthening infection prevention measures, and enhancing continuous professional development. While nurses actively participated in sepsis care, some expressed uncertainty regarding the structured implementation of the Sepsis Six Care Bundle, highlighting the need for clearer guidelines, improved infection control practices, and ongoing education.

4.3.4.1. Subtheme 3.1: Implementation of Standardized Protocols

Nurses emphasized that establishing clear, standardized protocols would improve the consistency and efficiency of sepsis management. While they were familiar with general sepsis care principles, some admitted uncertainty about the full details of the Sepsis Six Care Bundle, reinforcing the need for structured hospital guidelines. They explained that:

"We follow general sepsis management steps, but having a written protocol specific to our hospital would help us provide more structured care." P9

"A standardized protocol would help us ensure that we're all on the same page, reducing confusion and delays in treatment." P3

"Clear guidelines would make decision-making quicker, especially when we're under pressure and need to act fast." P7

"Everyone tries their best, but sometimes we do things differently because there's no single guideline we all follow."p1

"If all departments followed the same protocol, it would make communication with doctors and lab staff easier."p6

This highlighted the importance of standardized hospital policies to enhance decision-making and ensure uniformity in sepsis management. While nurses applied general sepsis care principles, they believed that a structured protocol would improve consistency in patient care. Some nurses noted that variations in practice among staff members led to differences in sepsis management approaches. The absence of a unified guideline meant that individual staff relied on personal experience, which sometimes resulted in inconsistencies. This underscored the need for a hospital-wide standardized protocol to ensure all healthcare providers followed the same approach to sepsis care. Additionally, nurses emphasized that clear protocols would enhance interdisciplinary teamwork. They believed that if all departments adhered to the same structured guidelines, communication and coordination with doctors and laboratory staff would improve, reducing delays in treatment. While nurses at Kabwe Central Hospital understood key aspects of sepsis care, they felt that standardized hospital protocols would strengthen their ability to implement the Sepsis Six Care Bundle effectively. Implementing clear, written guidelines would not only improve consistency in patient care but also enhance collaboration across healthcare teams.

4.3.4.2 Subtheme 3.2: Strengthening Infection Prevention Measures

Nurses identified infection prevention as a crucial strategy for reducing sepsis cases. They highlighted the importance of hygiene practices, proper wound care, and improved infection control measures in preventing the progression of infections to sepsis. They explained that:

"Hand hygiene is one of the simplest yet most effective ways to prevent infections, but sometimes, in a busy ICU, it can be overlooked." P2

"We see cases where wounds are not cleaned properly, and this increases the risk of infections becoming severe." P7

"If infection control measures were reinforced more regularly, we might reduce the number of sepsis cases we see." P4

"Even small lapses in hygiene can lead to big problems, so we have to stay vigilant at all times." P9

"Sepsis can start from something as simple as an infected IV site, so we must always use sterile techniques." P10

This highlighted the critical role of reinforcing basic infection control measures to minimize sepsis incidence. Nurses emphasized that maintaining strict hygiene protocols, especially in high-risk ICU settings, should be a continuous priority. Some nurses reported that inadequate wound care contributed to infections that could escalate to sepsis. They stressed the need for reinforcing wound management protocols to ensure proper cleaning and dressing of wounds, reducing the risk of infection-related complications. Additionally, nurses recognized that maintaining sterility in procedures such as IV insertions and catheter care was essential in preventing sepsis. They believed that strict adherence to infection control guidelines, particularly in invasive procedures, could significantly reduce hospital-acquired infections that might progress to sepsis. While nurses at Kabwe Central Hospital actively engaged in infection prevention, they believed that strengthening infection control measures, reinforcing wound care protocols, and ensuring adherence to hygiene practices would further reduce sepsis cases and improve patient outcomes.

4.3.4.3 Subtheme 3.3: Continuous Professional Development

Nurses highlighted that regular training sessions and refresher courses would improve their confidence and competence in sepsis management. Many acknowledged gaps in their knowledge of the Sepsis Six Care Bundle and emphasized the need for ongoing education. They explained that:

"Most of us learned about the Sepsis Six in school, but we need regular training to reinforce and update our knowledge." P1

"If we had more practical training sessions, like mock sepsis scenarios, we would feel more confident in handling real cases." P10

"Sepsis management keeps evolving, and we need ongoing education to keep up with the latest guidelines and treatments." P2

"Regular workshops would help us stay sharp and ensure we are following the best practices in sepsis care." P6

"I feel more prepared to handle sepsis cases after a hands-on training session, especially when I can practice with real-life scenarios." P4

This indicated that structured workshops and refresher courses would enhance their understanding of sepsis protocols. Continuous education was seen as essential in bridging existing knowledge gaps and ensuring the effective application of the Sepsis Six Care Bundle. Some nurses recommended hands-on training methods, such as simulations, to improve their clinical decision-making skills. They emphasized that interactive learning, including mock sepsis scenarios, would better prepare them for real-life patient care situations. Additionally, nurses recognized the need to stay updated with new developments in sepsis care. They expressed that ongoing education was crucial in keeping pace with evolving guidelines and treatment strategies to ensure the best patient outcomes.

4.3.5 Theme 4: Barriers to Effective Sepsis Management

This theme highlighted the challenges ICU nurses at Kabwe Central Hospital faced in effectively managing sepsis. Nurses reported that limited diagnostic tools and staffing constraints significantly impacted their ability to provide timely interventions. The delays in laboratory results, high patient-to-nurse ratios, and emotional exhaustion were major obstacles in the implementation of the Sepsis Six Care Bundle.

4.3.5.1. Subtheme 4.1: Limited Diagnostic Tools

Nurses highlighted that the unavailability of quick and reliable diagnostic tools hindered timely interventions for sepsis patients. Delays in receiving laboratory test results were identified as a significant barrier to effective clinical decision-making and timely treatment. Nurses explained:

"We may suspect sepsis early, but waiting hours for lab results makes it difficult to act immediately."
P2

"We start antibiotics empirically because we don't always have immediate access to culture results." P 5

"The longer we wait for diagnostic results, the more critical the situation becomes, and it's frustrating not being able to act right away." P3

"Timely diagnostic results are essential for making the right decisions quickly, but sometimes the wait is too long." P7

"Access to quicker diagnostics would help us make better decisions sooner, which could ultimately save lives." P6

"Having bedside diagnostic tools, like rapid infection markers, would help us initiate treatment much faster." P8

Nurses expressed frustration with the time it took to receive essential diagnostic results, which slowed down the initiation of appropriate interventions. This delay was seen as a critical factor that negatively impacted patient outcomes. Some nurses reported that blood cultures, which are crucial for guiding antibiotic therapy, were not always readily available, forcing them to start antibiotics empirically. This suggested that, in the absence of confirmatory tests, nurses often relied on clinical judgment to initiate treatment, potentially leading to suboptimal antibiotic use. To address these challenges, nurses emphasized the importance of point-of-care testing to improve response times. The need for more accessible and faster diagnostic tools, such as rapid infection markers at the bedside, was highlighted as essential for timely sepsis management. Nurses recognized the

importance of early detection in sepsis management but faced difficulties due to delays in receiving diagnostic test results, underscoring the need for improved diagnostic infrastructure in the ICU to enhance clinical decision-making and patient care.

4.3.5.2 Subtheme 4.2: Staffing Constraints

Nurses identified high patient-to-nurse ratios and increased workload as significant barriers to effective sepsis management. The shortage of staff had a direct impact on their ability to provide optimal care, leading to stress, exhaustion, and challenges in maintaining high-quality care. Nurses expressed concerns regarding staffing shortages:

“We do our best, but when you have too many patients, it’s hard to give each one the attention they need.” P7

“Sepsis patients need constant attention, and when we are short-staffed, it becomes overwhelming.” P8

“We know proper documentation is important, but when there’s only one nurse handling several patients, it becomes difficult to keep up.” P5

The high acuity of sepsis patients in the ICU placed significant strain on nurses, leading to burnout and emotional fatigue, particularly due to staffing shortages and the stress of managing multiple critically ill patients. These challenges hindered the ability to closely monitor sepsis cases, affecting patient outcomes, and also impacted timely and accurate documentation, essential for effective care coordination.

Nurses emphasized that addressing staffing shortages would improve sepsis management by enabling better monitoring, interventions, and documentation, while also calling for enhanced resources and policies to reduce workload. The difficulties faced at Kabwe Central Hospital highlighted the need for improved diagnostic tools, workforce support, and policy interventions to ensure effective sepsis care.

CHAPTER 5:

5.0 DISCUSSION OF FINDINGS

5.1 Introduction

This study provided an in-depth exploration of ICU nurses' experiences with the Sepsis Six Care Bundle, emphasizing both their engagement with the protocol and the challenges they faced in its implementation. Previous researches examined the effectiveness of the Sepsis Six in controlled settings (Rhodes et al., 2017), this study offered a contextualized understanding of how frontline nurses in a resource-limited environment perceived, implemented, and adapted to the protocol in their daily practice.

5.2 Demographic Characteristics of Participants

The findings revealed that while ICU nurses at Kabwe Central Hospital possessed a fundamental understanding of sepsis and acknowledge the urgency of early detection, they exhibited uncertainty regarding the comprehensive implementation of the Sepsis Six Care Bundle. This aligns with the findings by Daniels et al. (2010), who emphasized the necessity of comprehensive education and clear protocols to ensure adherence to best practices. Unlike studies in well-resourced settings that reported high adherence rates (Evans et al., 2017), this study highlighted persistent knowledge gaps among nurses in low-resource environments, leading to variations in protocol execution. Nurses demonstrated proficiency in identifying sepsis indicators such as fever, altered vital signs, and infection sources but were often unsure if they were fully implementing all six steps of the Sepsis Six protocol. This uncertainty echoed findings by Sterling et al. (2019), which suggested that a lack of standardized training contributed to inconsistencies in protocol application. These findings underscored the need for structured educational interventions to reinforce nurses' knowledge and ensure consistent application of all elements of the Sepsis Six Care Bundle. Additionally, ICU nurses recognized the importance of interdisciplinary collaboration in executing the bundle effectively. However, they identified challenges such as delays in laboratory results and inadequate prioritization of sepsis cases, hindered timely interventions. These operational inefficiencies aligned with findings by Vincent et al. (2017), who noted that early sepsis recognition and management were significantly influenced by healthcare team dynamics. Furthermore, inconsistencies in nurses' understanding of standardized implementation highlight the need for structured training programs, as emphasized by (Levy et al, 2018).

5.3 Nurses Approach to Sepsis Care

Another key barrier identified in this study was the lack of standardized hospital protocols, as evidenced by participant responses. This resulted in inconsistencies in clinical practice, reinforcing previous findings that guideline dissemination alone is insufficient for effective implementation

(Singer et al., 2016). The study underscored the need for structured protocols tailored to specific hospital settings to enhance nurses' decision-making and adherence to evidence-based sepsis management., while nurses recognized the critical role of the Sepsis Six Bundle in improving patient outcomes, limited diagnostic tools and staffing constraints impeded its effective implementation. These challenges aligned with findings by Fleischmann et al. (2016), who reported that while clinical guidelines improved patient outcomes, logistical and infrastructural deficiencies often hindered their application in real-world settings. Nurses in this study emphasized the necessity of rapid diagnostic support, particularly point-of-care testing, to facilitate timely sepsis recognition and intervention. This finding was consistent with Kumar et al. (2020), who demonstrated that delays in appropriate therapy significantly increase sepsis-related mortality. Overall, the study highlighted the importance of structured training, standardized hospital protocols, and improved diagnostic support to enhance adherence to the Sepsis Six Care Bundle and optimize sepsis management in low-resource ICU settings.

5.4 Collaborative Efforts in Sepsis Care

This study highlighted that ICU nurses perceived the Sepsis Six Care Bundle as being instrumental in managing sepsis, particularly in preventing deterioration and improving patient outcomes. Nurses reported swift initiation of fluid resuscitation, antibiotic administration, and oxygen therapy which were critical components of sepsis management supported by research (Kurma et al., 2017). However, a significant challenge while these interventions were prioritized was that adherence to the full Sepsis Six protocol was not consistent, this finding was aligned to the findings by Stephens et al. (2018), who noted that frontline healthcare workers recognize the importance of early sepsis management, yet structured care bundle adherence was often inconsistent due to workload pressures and resource constraints. Similarly, the present study reinforced that ICU nurses at were committed to sepsis management but faced challenges in systematically implementing the Sepsis Six Care Bundle due to ambiguity in structured guidance and protocol adherence. Nurses acknowledged the potential of the Sepsis Six Bundle in improving patient survival rates; however, inconsistencies in communication hindered its optimal implementation. The study found that ineffective handovers disrupted continuity of care, leading to delays in sepsis management.

5.5 Strategies for Improving Sepsis Management

This was consistent with the findings by Flemming et al (2021), who emphasized that structured handover protocols significantly enhanced patient outcomes in critical care settings. Additionally, the underutilization of digital record-keeping systems was identified as a barrier, corroborating findings from Schmidt et al. (2019), which suggest that electronic documentation enhances adherence to evidence-based sepsis interventions. These results underscored that while the Sepsis Six Bundle was theoretically effective, its real-world impact was contingent upon systemic support structures. Despite gaps in knowledge, nurses recognized the bundle's potential to improve patient outcomes. Their perspectives aligned with international evidence demonstrating that early and structured sepsis interventions significantly reduce mortality (Linde et al., 2018). However, the study revealed that variations in implementation, limited interdisciplinary coordination, and gaps in infection control measures compromised its effectiveness. Concerns raised by nurses, such as P9's emphasis on interdisciplinary teamwork, highlighted the necessity of hospital-wide adoption of sepsis protocols to enhance communication among healthcare teams. This mirrored the findings by Vincent et al. (2020), who stress that interdisciplinary collaboration was key to optimizing patient outcomes.

5.6 Barriers to effective Sepsis Management

ICU nurses affirmed the effectiveness of the Sepsis Six Care Bundle when implemented without delays. They emphasized that its structured approach standardized early intervention and improved patient prognosis. However, systemic barriers such as delayed laboratory results and inadequate staffing diminished its practical efficacy. These findings were in line with the findings by Van et al. (2021), who emphasized that goal directed therapy was only as effective as the support systems. The evidence from this study suggested that while ICU nurses possessed adequate knowledge of sepsis care, the gap between knowledge and implementation was resource availability and institutional support structures inconsistencies. Infection prevention was identified as a critical area for improving sepsis outcomes. Nurses highlighted lapses in hygiene and wound care, echoing findings from Allegranzi et al. (2016), which stress that inadequate infection control practices contributed significantly to sepsis incidences. The emphasis on hand hygiene, as noted by P4, aligns with global recommendations (WHO, 2017), reinforcing the need for continuous infection prevention efforts in

ICUs. The study suggested that reinforcing infection control through regular audits and staff training could significantly reduce the burden of sepsis, this is also consistent with research advocating for proactive sepsis prevention measures (Lucet et al., 2020). High patient-to-nurse ratios was another significant challenge reported in this study. Nurses indicated that sepsis patients required continuous monitoring, yet staff shortages led to overburdened personnel and compromised patient care. This finding aligned with the findings by Aiken et al. (2022), which establish a direct correlation between nurse staffing levels and patient outcomes. The stress and emotional exhaustion associated with managing critically ill sepsis patients further exacerbated burnout, potentially diminishing clinical performance (Coggins et al., 2020). Addressing these constraints through policy-driven staffing solutions could significantly enhance sepsis management.

5.1 Implications of the Study

The study on the Sepsis Six Care Bundle provided valuable insights into the challenges and effectiveness of its implementation among ICU nurses. Understanding these experiences was essential for improving sepsis management, patient outcomes, and nursing practice. The findings indicated a need for better training, resource allocation, and policy enforcement to enhance adherence to the bundle (Singer et al., 2016). Moreover, the study highlighted areas where nurses struggled, such as early recognition and prompt intervention, emphasizing the need for continuous professional development. Addressing these gaps would contribute to evidence-based practice and better clinical decision-making in ICU settings.

5.1.1 Nursing Practice

Implementing the Sepsis Six Care Bundle in ICU settings significantly improved early recognition and management of sepsis. By following the protocol, nurses would ensure rapid administration of antibiotics, fluid resuscitation, and oxygen therapy, which were critical in reducing mortality (Rhodes et al., 2017). The study suggested that knowledge gaps and workload constraints affected adherence, requiring better workflow strategies. Additionally, institutional barriers such as limited resources and lack of support systems further hindered effective implementation. Therefore, strengthening adherence through structured protocols and supportive supervision is essential to optimizing sepsis care.

5.1.2 Nurse Education

Nursing education plays a crucial role in equipping nurses with the knowledge and skills needed for sepsis management. Integrating the Sepsis Six Care Bundle into undergraduate and postgraduate curricula would enhance nurses' abilities to recognize and respond to sepsis effectively (Martin et al., 2018). Simulation-based training had been shown to improve clinical decision-making and confidence in managing septic patients. Additionally, continuous professional development (CPD) programs should be reinforced to ensure nurses remained updated on evidence-based practices. By addressing knowledge deficits through education, nurses would improve adherence to sepsis management protocols and enhance patient outcomes.

5.1.3 Nursing Administration

Nursing administration was pivotal in ensuring the successful implementation of the Sepsis Six Care Bundle within hospital settings. Hospital policies must enforce strict adherence to evidence-based guidelines for sepsis management (Dellinger et al., 2016). Resource allocation, including adequate staffing, necessary medications, and equipment, played a crucial role in overcoming implementation barriers. Additionally, routine audits and performance evaluations should be conducted to assess compliance and identify areas for improvement. By fostering a supportive work environment and interdisciplinary collaboration, nurse administrators would enhance the effectiveness of sepsis interventions.

5.1.4 Nursing Research

Research in nursing is essential for evaluating the impact and effectiveness of the Sepsis Six Care Bundle in improving patient outcomes. Future studies should explore the long-term effects of early sepsis interventions and their correlation with mortality rates (Evans et al., 2021). Comparative studies across different healthcare settings would provide insights into institutional challenges and best practices. Additionally, research should focus on the barriers to implementation, including nurses' perspectives on workload, training, and institutional support. Strengthening nursing research in sepsis management would contribute to policy development and improved healthcare delivery.

5.2 Conclusion

This study offered valuable insights into the experiences of nurses with the implementation of the Sepsis Six Care Bundle at Kabwe Central Hospital, revealing both the successes and challenges in adhering to the protocol. It emphasized the importance of timely interventions, adequate staffing, and resource availability for effective sepsis management, while also identifying areas for improvement, particularly in training, communication, and support systems. The research provided a unique perspective by focusing on frontline nurses in a resource-limited Zambian setting, which distinguishes it from existing studies that typically concentrated on clinical outcomes in high-resource environments. The significance of this study lied in its potential to influence policy and practice aimed at improving sepsis care in Zambia. By understanding the barriers and facilitators to protocol adherence, the research would inform targeted interventions to enhance the effectiveness of the Sepsis Six Bundle and improve patient outcomes. Furthermore, it underscored the need for continued research to explore the scalability of such interventions in different healthcare settings, ensuring that these insights would benefit a wider population in similar low-to-middle-income countries. A key contribution of this research lied in its focus on the practical realities of protocol adherence, moving beyond the assumption that the mere existence of evidence-based guidelines guaranteed successful implementation. By analyzing nurses' perspectives, the study uncovered critical factors that influenced adherence, including interdisciplinary collaboration, communication structures, administrative support, and institutional resource constraints. These findings highlighted discrepancies between theoretical knowledge and practical application, exposing gaps in training, workforce capacity, and diagnostic infrastructure that impacted sepsis management. Furthermore, this study challenged the notion that sepsis management failures stem solely from individual noncompliance. Instead, it identified systemic and institutional barriers that hindered optimal care delivery. By integrating nurses' lived experiences with an evaluation of structural deficiencies, the research underscored the need for targeted policy and resource-based interventions to enhance sepsis care in healthcare systems. In doing so, it contributed to the broader discourse on translating global sepsis guidelines into effective practice within resource-constrained settings.

5.3 Recommendations

Based on the findings of this research, several key recommendations were proposed to improve the implementation of the Sepsis Six Care Bundle at Kabwe Central Hospital. Firstly, regular, comprehensive trainings for healthcare providers on the Sepsis Six protocol should be introduced, along with better resource allocation to address gaps in diagnostics, medications, and staffing. Improved communication channels among healthcare teams and administrative support, including regular audits and feedback mechanisms, should be prioritized to ensure consistent adherence. Future research should adopt a mixed-methods approach, combining qualitative insights with quantitative measures of protocol adherence and patient outcomes. Additionally, expanding stakeholder involvement to include hospital leadership and administrators will provide a more holistic understanding of the challenges faced in sepsis management. Finally, pilot interventions addressing identified gaps, such as improving staffing during peak sepsis cases and enhancing diagnostic capabilities, should be tested to assess their impact on patient outcomes and protocol adherence. Protocols on sepsis management should be displayed in all hospitals areas involved with managing sepsis.

5.4 Dissemination of Findings

The study findings would be shared through hospital presentations, policy briefs, and academic publications. A seminar would be conducted at Kabwe Central Hospital to educate ICU staff on the research outcomes. Additionally, the findings would be presented at nursing conferences to encourage discussion among healthcare professionals. A research paper would be submitted to peer-reviewed nursing and medical journals to contribute to global evidence-based practices. Lastly, efforts would be made to integrate the findings into nursing curricula and community health programs to improve sepsis awareness and management.

5.5 Limitations/Strengths of the study

While the study provided the latest data on the actual experiences of nurses with the implementation of the sepsis six care bundle, it was not without any limitations. the study had several limitations. Firstly, the research was conducted at a single healthcare facility, Kabwe Central Hospital, which

limited the generalizability of the results to other settings with different resource levels or care protocols.

To enhance the breadth of the findings, future research could explore the experiences of healthcare professionals across multiple hospitals, providing a more comprehensive understanding of the Sepsis Six Care Bundle implementation. Secondly, the study relied on self-reported experiences from participants, which could be subject to recall bias or social desirability bias, potentially affecting the accuracy of the reported data. To address this limitation, future studies could incorporate direct observational methods to gather more objective data on protocol adherence and clinical practice. Additionally, while qualitative research offers in-depth insight, it does not allow for quantifiable measurements of the extent of adherence to the Sepsis Six Bundle or its impact on patient outcomes. Future research could adopt a mixed-methods approach, combining qualitative interviews with quantitative metrics to provide a more comprehensive evaluation of the Sepsis Six Care Bundle's effectiveness and adherence rates. Lastly, there is a potential response bias in the willingness of participants to discuss administrative shortcomings or challenges openly. Including a broader sample, such as hospital leadership or administrators, in future research could provide a more holistic view of the factors influencing Sepsis Six Care Bundle implementation, highlighting both clinical and systemic challenges.

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APPENDIX 1: TIMELINE

SN	ACTIVITY	May 2024	Jun 2024	Jul 2024	Aug 2024	Sept 2024	Oct 2024	Nov 2024	Dec 2024	Jan 2025	Feb 2025
1.	Proposal writing										
2.	Literature review										
3.	Submission of research proposal										
4.	Ethical approval										
5.	Pilot study										
6.	Data collection										
7.	Data analysis										
8.	Draft and final report writing										
9.	Submission of research report										

APPENDIX II: RESEARCH BUDGET

S. No	ITEM	UNIT COST	QUANTITY	TOTAL COST
1.	Stationary			
	Pens	K10. 00	20	K200.00
	Pencils	K5. 00	20	K100.00
	Rim of paper	K150. 00	2	K300.00
	Tonner	K2000. 00	1	K2000.00
	Flash disk	K500.00	1	K500.00
2.	Allowances	K200×3	7days	K4200.00
	Lunch allowance for interviewers	people		
3.	Transport to Lusaka from Kabwe for ethical approval and up keep	K1500 ×	4	K6000.00
		people		
4.	Fees			
	Ethical approval	K1500.00	1	K1500.00
	Binding of research report	K500.00	5	K2500.00
	GRAND TOTAL			K17 300.00

BUDGET JUSTIFICATION

Stationary: The pens and pencils will be used to write the research proposal and also the respondent's responses during data collection. The rims of paper will be used for proposal development and printing the research proposal and report. The toner will be used for printing the research proposal and report, and the flash discs will be required for keeping the soft copies of the documents.

Allowances

Allowances will be given to the interviewer for lunch as the collection of data will be conducted the whole day. Transport allowance will be given to the researcher when they will be interviewing the respondents within Kabwe and when taking the research proposal and report to Lusaka. Some amount will be paid to the ethical committee for approval of the research proposal.

APPENDIX III: FACE TO FACE INTERVIEW GUIDE



**THE UNIVERSITY OF
ZAMBIA SCHOOL OF NURSING
SCIENCES**

STUDY TITLE: NURSES’ EXPERIENCES WITH IMPLEMENTATION OF THE SEPSIS SIX CARE BUNDLE IN INTENSIVE CARE UNIT AT KABWE CENTRAL HOSPITAL, IN KABWE, ZAMBIA

FOR NURSES WHO ARE WORKING OR WORKED IN ICU WITHIN THE PREVIOUS YEAR AT KABWE CENTRAL HOSPITAL

DATE

WARD/DEPARTMENT

.....

QUESTIONNAIRE NUMBER

INSTRUCTIONS TO THE RESEARCHER

1. Introduce yourself to the respondent.
2. Ask for permission from the respondent to participate in the interview.
3. Explain the purpose of the questionnaire and reasons for undertaking the research.
4. Participants should not be forced to participate in the interview.
5. Assure the respondent of confidentiality.
8. Thank the respondent at the end of the interview.

Introduction: Thank you for agreeing to speak to me for this research study; the interview

should take approximately 30- 45 Minutes. I am going to ask you one Core question that will be followed by prompts depending on your responses to the core question about your experiences on “Sepsis Six Care Bundle”.

Tell me and if there is anything you would prefer not to answer then you do not have to. If at any point you feel uncomfortable or distressed, please let me know and we can take a break. You are also welcome to completely stop the process and withdraw from the study at any time during our conversation.

At the end of the interview I will spend some time talking to you about other things and ensure that you feel safe and happy.

Do you have any questions before we begin?

(Text in italics represents prompts that can be used if necessary, to help participants answer questions in full.)

Section A

Demographic Information

1. Participants sex:
 - A. Male
 - B. Female
2. Age of the participant:
 - A. 20-30 years
 - B. 30-40 years
 - C. 40 – 50 years
 - D. 50years and above
3. Role in ICU:
 - A. Charge Nurse
 - B. Nurse Practitioner
 - C. Staff Nurse

4. Years of Practice in ICU:
- A. less than 1 years
 - B. 1– 2 years
 - C. **2-3 years**
 - D. 4-5 years
 - E. 5 Years and above

Section B

What has been your experience with implementation of the sepsis six care bundle?

Has the number of years in practice contributed to your utilization of the sepsis six care bundle?

What is **Sepsis Six Care Bundle**?”

Can you tell me more about the **“Sepsis Six Care Bundle” and its components?**

Have you implemented the “Sepsis Six Care Bundle”?

How did you know about *“Sepsis Six Care Bundle”*?

What challenges have you encountered with *“Sepsis Six Care Bundle”*??

please tell me more about anything of concern with the implementation of the *“Sepsis Six Care Bundle”*?

Can you tell me about anything that was helpful with “Sepsis Six Care Bundle”??

Can you tell me about anything that was difficult/unhelpful with “Sepsis Six Care Bundle”???

How did the “Sepsis Six Care Bundle” compare to what you had expected without it

What things do you think that you are not being able to use and what have affected your use of “Sepsis Six Care Bundle in the **Management of septic patients?**

What effect has “Sepsis Six Care Bundle “had on your Management of sepsis patients?

- *On use of sepsis six care bundle?*

- *On your practice generally?*
- *How do the effects compare to what you had expected?*
- *How do you feel now about your “Sepsis Six Care Bundle “?*

Is there anything else that you think it is important for me to know about your experiences on “Sepsis Six Care Bundle “

Thank you for your time.

APPENDIX IV: PERMISSION LETTERS

The Senior Medical Superintendent,
Kabwe Central Hospital,
P.O. Box, 80917, KABWE.

The University of Zambia, School of Nursing Sciences,
P. O. Box 50110, LUSAKA,
16th November, 2023.

Dear Sir/Madam,

REF: REQUEST TO CONDUCT A RESEARCH STUDY AT KABWE CENTRAL HOSPITAL

The above subject matter refers.

I am student at the University of Zambia pursuing a Master's Degree in Critical Care Nursing. As partial fulfillment for the award of the Master's degree, I am required to conduct a research study. The title of the study is; "A Study Exploring Experiences on 'Sepsis Six Care Bundle' among Nurses in Intensive Care Unit at Kabwe Central Hospital, in Kabwe, Zambia.". Kabwe Central Hospital has a high number of patients dying due to sepsis, one of the contributing factors would be lack experience by Nurses on sepsis six care bundle. I am therefore requesting for permission to conduct the research study in your Hospital.

Your favourable consideration will be highly appreciated

Yours faithfully

Remmy Phiri

APPENDIX V: INFORMATION SHEET

Introduction:

My name is Remmy Phiri, a second year student from the University of Zambia, School of Nursing Science pursuing Master of Science in Critical Care Nursing. As part of the requirements for a Master's degree, am conducting a research project focused on the Sepsis Six care bundle. The research topic is on "Exploring Experiences on 'Sepsis Six Care Bundle' among Nurses in Intensive Care Unit at Kabwe Central Hospital, in Kabwe, Zambia".

Kabwe Central Hospital recorded 21 sepsis-related deaths in 2022 despite measures to reduce such fatalities. This study aims to identify means to decrease sepsis-related mortality rates.

Sepsis is a life-threatening condition that requires prompt recognition and intervention to improve patient survival and reduce long-term complications. The Sepsis Six care bundle is a set of evidence-based interventions aimed at initiating early treatment for sepsis within the first hour of recognition, encompassing actions such as administration of antibiotics, fluid resuscitation, and monitoring of vital signs. Despite its proven effectiveness, the implementation of the Sepsis Six care bundle presents challenges within healthcare settings, including barriers to timely recognition, resource limitations, and variations in practice.

The Researcher aims to address these challenges through a comprehensive research study focused on understanding the experiences of healthcare providers, particularly nurses, in implementing the Sepsis Six care bundle. By exploring frontline perspectives, identifying barriers and facilitators, and proposing targeted interventions, this research seeks to enhance the delivery of sepsis care, improve patient outcomes, and contribute to the advancement of evidence-based practice in critical care settings.

Through collaboration with healthcare professionals, community stakeholders, and patient advocates, the Researcher is committed to making a meaningful impact on sepsis care and promoting the well-being of individuals and families affected by this life-threatening condition. It is from this background that the Researcher intends to conduct this Research:

Purpose of the Research:

This research is conducted as part of the requirements for obtaining a Master of Science degree in Critical Care Nursing at the University of Zambia. It aims to explore nurses' experiences with the 'Sepsis Six Care Bundle' in the Intensive Care Unit (ICU) at Kabwe Central Hospital.

Voluntary Participation:

Your involvement in this study is voluntary. You have the right to decline participation or withdraw from the interview and your decision will not result in any penalties or repercussions. If you choose to participate, you will be asked to partake in a confidential interview conducted by a trained interviewer. The interview will take approximately 30-40 minutes of your time. By participating in this study, you acknowledge that you have read and understood the information provided in this information sheet. You are free to ask questions at any time, and your decision to participate is entirely voluntary.

Confidentiality:

All information obtained will be treated with utmost confidentiality. Your identity will remain anonymous, and your name will not be required. Your privacy will be protected throughout the study, and confidentiality measures will be strictly adhered to.

Risks and Discomforts:

Some questions may seem personal and may cause discomfort. You have the option not to answer any question that makes you uncomfortable.

Benefits:

While there are no direct benefits to participating in this study, your insights and experiences may contribute to improving patient care and reducing sepsis-related mortality rates in the ICU at Kabwe Central Hospital. Additionally, participation in research can enhance your knowledge and understanding of critical care nursing practices

Reimbursement:

There is no monetary reimbursement for participating in this study. However, your contribution to the research is highly valued and appreciated.

APPENDIX VI: CONSENT FORM

I have read and I understand the provided information and have had the opportunity to ask questions. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving a reason and without facing any penalties. I understand that I will be given a copy of this consent form. I voluntarily agree to take part in this study.

I _____ on _____ October, 2024, declare that I understand the purpose of this study and I am willing to participate in the Study.

Participant's signature _____ Date _____

Investigator's signature _____ Date _____

Research Supervisors Signature.....

Date..... For further questions or concerns contact:

Contact Information:

If you have any questions about the study, you can contact:

Investigator: Remmy Phiri Phone: 0978025284 / 0967731848 Email: chambukila24@gmail.com

Supervisor: Mrs. Martha Mwelwa, 0977821663, martha.mbewe@unza.zm

You can also reach out to the UNZA School of Nursing Sciences for further information and University of Zambia Biological Research Ethics Committee (UNZABREC)



**UNIVERSITY OF ZAMBIA
BIOMEDICAL RESEARCH ETHICS COMMITTEE**

Telephone: +260 977925304

Telegrams: UNZA, LUSAKA

Telex: UNZALU ZA 44370

Fax: + 260-1-250753

Federal Assurance No. FWA00000338

IRB00001131 of IORG0000774

NHRAR-REC No 2021-05-0002

Ridgeway Campus

P.O. Box 50110

Lusaka, Zambia

E-mail: unzabrec@unza.zm

15th June 2024

Your REF. No. 5279-2024

Mr. Remmy Phiri
University of Zambia,
School of Nursing Sciences,
PO Box 50110,
Lusaka.

Dear Mr. Phiri,

**RE: EXPLORING EXPERIENCES ON 'SEPSIS SIX CARE BUNDLE' AMONG NURSES IN
INTENSIVE CARE UNIT AT KABWE CENTRAL HOSPITAL, IN KABWE, ZAMBIA
(REF. NO. 5279-2024)**

The above-mentioned research proposal was presented to the Biomedical Research Ethics Committee on 15th June, 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. 5279-2024.

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

- i. **APPROVAL DATE** : 15th June 2024
- ii. **TYPE OF APPROVAL** : Standard
- iii. **EXPIRATION DATE OF APPROVAL** : 14th June 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.



NATIONAL HEALTH RESEARCH AUTHORITY
The Health Research Act (Act
No. 2 of 2013)



CERTIFICATE OF REGISTRATION

THIS IS TO CERTIFY THAT

Remmy Phiri

has been registered as a Health Researcher

Dated this 21st October 2024

Registration number NHRAR-R-2051/09/10/2024



A/DIRECTOR AND CHIEF
EXECUTIVE OFFICER PROF.
VICTOR CHALWE



NATIONAL HEALTH RESEARCH AUTHORITY

Lot No. 18961/M, off Kasama Road, Chalala, P.O. Box 30075, LUSAKA
Tell: +260211 250309 | Email: znhrasec@nhra.org.zm | www.nhra.org.zm

NHRA-1649/22/10/2024

24th October 2024

The Principal Investigator,
Mr. Remmy Phiri,
University of Zambia, School of Nursing Sciences, P.O Box 50110, Lusaka.,

Dear Mr. Remmy Phiri,,

Re: Request for Authority to Conduct Research

The National Health Research Authority Is in Receipt of Your Request for Authority to Conduct Research Titled “EXPLORING EXPERIENCES ON ‘SEPSIS SIX CARE BUNDLE’ AMONG NURSES IN INTENSIVE CARE UNIT AT KABWE CENTRAL HOSPITAL, IN KABWE, ZAMBIA”

I wish to inform you that following submission of your request to the Authority, our review of the same and in view of the ethical clearance, this study has been **approved** on condition that:

1. The relevant Provincial and District Medical Officers where the study is being conducted are fully appraised.
2. Progress updates are provided to NHRA bi-annually from the date of commencement of the study.
3. The final study report is cleared by the NHRA before any publication or dissemination within or outside the country.
4. After clearance for publication or dissemination by the NHRA, the final study report is shared with all relevant Provincial and District Directors of Health where the study was being conducted, University leadership, and all key respondents.

Yours sincerely,

National Health Research Authority


Prof. Victor Chalwe,
Acting Director/Chief Executive Officer