

**ASSESSMENT OF WOUND CARE PRACTICES AND ASSOCIATED FACTORS  
AMONG NURSES IN SELECTED TERTIARY  
HOSPITALS BENIN CITY**

**BY**

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**BENIN CITY**

**NOVEMBER, 2024**

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**IN PARTIAL FULFILLMENT OF THE REQUIREMENTS OF NURSING AND  
MIDWIFERY COUNCIL OF NIGERIA FOR THE AWARD OF “REGISTERED  
NURSE**

**NOVEMBER, 2024**

**DECLARATION**

This is to declare that this research project titled “**ASSESSMENT OF WOUND CARE PRACTICES AND ASSOCIATED FACTORS AMONG NURSES IN SELECTED TERTIARY HOSPITALS BENIN CITY**”. was carried out by **JOSHUA JESUOROBO JOHN** is solely the result of my work except were acknowledged as being derived from other person(s) or resources.

**EXAMINATION NUMBER:** \_\_\_\_\_

**DEPARTMENT/SCHOOL:** NURSING SCIENCE, SCHOOL OF BASIC MEDICAL SCIENCES, UNIVERSITY OF BENIN, BENIN CITY.

**Signature:** .....

**Date:** .....

## CERTIFICATION/APPROVAL

This is to certify that this project titled “**ASSESSMENT OF WOUND CARE PRACTICES AND ASSOCIATED FACTORS AMONG NURSES IN SELECTED TERTIARY HOSPITALS BENIN CITY**” was carried out by **JOSHUA JESUOROBO JOHN** was carried out by with Mat. No. BMS1902324 in the Department of Nursing Sciences under the supervision of DR.T.A. EHWARIEME

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## ABSTRACT

*This study evaluates wound care knowledge and practices among nurses in tertiary health facilities in Benin City, Edo State, Nigeria. A cross-sectional survey was conducted with 200 nurses to assess the wound care practices and identify associated factors among nurses in selected tertiary hospitals in Benin City, through a structured questionnaire focusing on their demographic characteristics, adherence to established wound care protocols, and the factors influencing their practices. The findings revealed that the nursing workforce was predominantly female (71.0%), with a mean age of 33 years and a significant proportion (52.5%) having less than five years of experience. Adherence to wound care practices varied, with a majority of nurses demonstrating competence in essential procedures, such as wound classification ( $\bar{x} = 2.22$ ) and use of antibacterial cleansers ( $\bar{x} = 2.22$ ). However, advanced techniques like negative pressure wound therapy ( $\bar{x} = 1.44$ ) were rarely utilized. Overall, 55% of respondents exhibited high adherence to wound care protocols, particularly in infection control. Factors identified as significantly influencing wound care practices included time constraints ( $\bar{x} = 3.03$ ), and inadequate training ( $\bar{x} = 2.98$ ).*

*The study concluded that significant relationships exist between adherence levels and demographic variables such as gender, age, educational qualification, and years of experience. However, recommendations include enhancing resource allocation, improving training programs, and fostering mentorship among nursing staff to elevate wound care standards and improve patient outcomes in the studied institutions.*

**Keywords:** *Wound Care, Nursing Practices, Adherence, Resource Availability, Tertiary Hospitals, Benin City.*

## **DEDICATION**

This work is dedicated to GOD ALMIGHTY who is providing me with the strength to complete my academic journey and my beloved parents and siblings for their unwavering support, love, and encouragement throughout my academic journey, I am deeply grateful.

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## CHAPTER ONE

### INTRODUCTION

#### 1.1 Background to the Study

Wound care is a critical aspect of patient care, significantly impacting recovery outcomes. Proper wound management not only prevents infections but also promotes faster healing and reduces complications such as chronic wounds, which can result in prolonged hospital stays and even death in severe cases (Belachew *et al.*, 2022). Nurses play a pivotal role in wound care, particularly in tertiary hospitals where cases tend to be more complex due to the severity of the patients' conditions (Getie *et al.*, 2020). These healthcare professionals are at the frontline of patient care, and their adherence to best practices in wound management is crucial for improving patient outcomes.

Despite global emphasis on standardized wound care practices, there are significant variations in how these guidelines are applied in different healthcare settings. Research suggests that gaps in both knowledge and practice exist among nurses, often leading to suboptimal outcomes for patients (Awoke *et al.*, 2022). These gaps are frequently attributed to inadequate training, lack of resources, and limited adherence to clinical guidelines. In countries like Nigeria, the situation is further complicated by resource constraints and infrastructural challenges prevalent in many tertiary hospitals (Tegegne *et al.*, 2020). As a result, nurses working in these environments often face significant challenges in providing optimal wound care, leading to varying levels of compliance with wound care protocols.

Studies from different parts of Africa, including Ethiopia and Nigeria, have highlighted common issues related to wound care practices. For instance, Gizaw *et al.* (2022) observed that nurses in Ethiopia working in public hospitals exhibited inconsistent adherence to postoperative wound care guidelines due to lack of proper training and limited access to

necessary materials. Similarly, Obilor *et al.* (2021) noted that wound-related pain management practices were often inadequate in Nigerian hospitals, further complicating wound healing processes.

In Nigerian tertiary hospitals, particularly in Benin City, the management of wounds has received increased attention due to the high volume of patients with complex wounds. Hospitals like the University of Benin Teaching Hospital (UBTH) serve as referral centers for cases involving severe injuries, burns, surgical wounds, and chronic ulcers. However, despite the significant role these hospitals play in patient care, the quality of wound care remains inconsistent due to several factors (Ofoegbu and Onwudiegwu, 2020). Research conducted by Akhiwu *et al.* (2021) in Southwestern Nigeria revealed that only 55% of nurses adhered strictly to standardized wound care protocols. This lack of adherence highlights a critical need for enhanced training and resource allocation in these institutions.

The role of pain in wound management is another critical factor often overlooked in clinical practice. Studies such as those by White (2008) and Hollinworth and White (2006) emphasize the significance of assessing pain during wound care, as unmanaged pain can hinder the healing process. In Ethiopia, Ayen Tegegne *et al.* (2020) found that patients frequently reported severe pain during wound management, which was inadequately addressed by nurses. Similar findings were echoed in Nigerian hospitals, where a study by Obilor *et al.* (2021) reported substandard pain management practices, particularly during dressing changes. Training plays an essential role in ensuring that nurses are equipped with the necessary skills and knowledge for effective wound care. According to Awoke *et al.* (2022), nurses who had undergone formal training in wound care demonstrated better adherence to best practices. However, even with adequate training, challenges such as time constraints, high patient loads, and lack of materials often prevent nurses from consistently following wound care protocols.

As noted by Getie *et al.* (2020), the availability of wound care materials significantly impacts the quality of care provided by nurses in public hospitals.

In low-resource settings, nurses must often rely on their experience and improvisation to manage wounds effectively. While this adaptability is commendable, it also underscores the need for improved systemic support, including better access to wound care products, ongoing training, and institutional policies that prioritize wound care. Ding *et al.* (2016) emphasized the need for comprehensive wound assessment and documentation to enhance patient outcomes, a practice that is frequently overlooked in many tertiary hospitals due to time constraints and understaffing.

Understanding the knowledge and practices of nurses regarding wound care is crucial for identifying gaps in care and improving outcomes. This study seeks to assess the wound care practices among nurses in selected tertiary hospitals in Benin City, Nigeria, and explore the factors influencing these practices. By identifying these factors, the study aims to contribute to the development of targeted interventions that will enhance wound care in Nigerian healthcare settings. Given the global emphasis on reducing wound-related complications and improving patient outcomes, addressing the specific challenges faced by nurses in low-resource settings such as Nigeria is both timely and necessary.

## **1.2 Statement of the Problem**

Despite advances in medical care, suboptimal wound management remains a significant challenge in many Nigerian hospitals. Wounds that are not properly treated can lead to complications, such as infections, gangrene, and chronic wounds, which, in turn, increase patient morbidity and mortality rates. These complications also put additional strain on already limited healthcare resources, increasing hospital costs and prolonging patient recovery times. Studies from various African contexts have shown that inadequate training, poor resource

allocation, and limited access to proper wound care materials are common factors contributing to these poor outcomes (Oseni *et al.*, 2019).

In Benin City, tertiary hospitals such as the University of Benin Teaching Hospital and Central Hospital play a central role in managing complex cases, including wound care. However, anecdotal evidence and preliminary studies suggest that there is a gap between the recommended wound care protocols and the actual practices followed by nurses in these hospitals. Factors such as a lack of continuing education, insufficient supervision, and poor adherence to clinical guidelines have been identified as barriers to effective wound management (Olayinka&Eregie, 2021).

Given the increasing burden of chronic wounds and the critical role that nurses play in patient care, there is an urgent need to assess current wound care practices in tertiary hospitals. This assessment will help identify the factors hindering optimal wound management and provide evidence for implementing improvements in nursing education, training, and resource provision. Addressing these challenges will ultimately lead to better patient outcomes and reduce the incidence of wound-related complications in Nigerian healthcare settings.

### **1.3 Aim of the Study**

The aim of this study was to assess the wound care practices of nurses in selected tertiary hospitals in Benin City, with a focus on identifying the factors that influence these practices. By evaluating these practices and associated factors, the study aimed to provide recommendations for improving the quality of wound care in Nigerian healthcare settings, particularly in tertiary

## **1.4 Objectives of the Study**

The objective of this study was divided into general and specific objectives

### **1.4.1 General Objective**

- To assess wound care practices and the factors influencing these practices among nurses in selected tertiary hospitals in Benin City.

### **1.4.2 Specific Objectives**

- i. To assess the current wound care practices among nurses in tertiary hospitals in Benin City.
- ii. To determine the level of adherence to standardized wound care guidelines among nurses.
- iii. To examine factor affecting optimal wound care practices among nurses in tertiary hospital in Benin City.

## **1.5 Research Questions**

This study was guided by the following research questions:

- i. What are the current wound care practices among nurses in tertiary hospitals in Benin City?
- ii. What is the level of adherence to standardized wound care guidelines among nurses?
- iii. What are the factors affecting optimal wound care practices among nurses in tertiary hospital in Benin City?

## **1.6 Hypothesis**

The study tested the following hypothesis:

### **Null Hypothesis (H<sub>0</sub>)**

There is no significant relationship between nurses' level of education, experience, and resource availability and their optimal wound care practices in tertiary hospitals in Benin City.

### **Alternative Hypothesis (H<sub>1</sub>):**

There is a significant relationship between nurses' level of education, experience, and resource availability and their optimal wound care practices in tertiary hospitals in Benin City.

### **1.7 Significance of the Study**

This study is expected to make a significant contribution to nursing practice, healthcare policy, and patient outcomes, particularly in the context of wound care in Nigerian tertiary hospitals. By assessing current wound care practices and identifying the factors that influence these practices, the study will provide evidence-based insights that can help improve the quality of care delivered by nurses. Effective wound care is essential in preventing complications, promoting faster recovery, and reducing healthcare costs, all of which are critical to enhancing the overall quality of healthcare services (Olowokere *et al.*, 2021).

The findings of this study will be valuable for hospital administrators and healthcare policymakers in Nigeria. It will offer practical recommendations on how to address gaps in wound care management, including the need for better resource allocation, improved access to wound care materials, and the importance of adherence to clinical guidelines. Additionally, the study will inform strategies for improving nurse training and continuing education, which are essential for ensuring that nurses have the necessary knowledge and skills to deliver high-quality wound care (Ofoegbu and Onwudiegwu, 2020).

In resource-limited settings like Nigeria, where healthcare facilities often struggle with inadequate materials and equipment, this research will highlight the critical role that institutional support plays in effective wound management. Addressing the challenges faced by nurses in wound care could lead to a reduction in the incidence of wound-related complications, such as infections and prolonged healing times, thereby improving patient outcomes and reducing the burden on the healthcare system (Oseni *et al.*, 2019).

Moreover, this study will contribute to the growing body of literature on wound care practices in Africa. It will offer context-specific insights into the challenges and opportunities for improving wound management in Nigerian tertiary hospitals, thus providing a foundation for further research in other parts of Africa facing similar healthcare challenges (Akhiwu *et al.*, 2021). The study's recommendations could also serve as a model for developing countries aiming to enhance wound care practices through targeted interventions and policy reforms.

### **1.8 Scope of the Study**

The scope of this study encompassed an assessment of wound care practices among nurses in selected tertiary hospitals in Benin City, Edo State, Nigeria. Specifically, the research focused on the University of Benin Teaching Hospital (UBTH) and Central Hospital, Benin, which are prominent healthcare facilities known for handling a wide range of medical cases, including wound management.

The study examined the wound care practices employed by nurses, their adherence to standardized wound care protocols, and the factors influencing these practices. It explored key aspects such as the availability of resources, the level of training and education of the nurses, and the challenges they encountered while providing wound care. Additionally, the study covered various nursing units where wound care is a critical aspect of patient management, including surgical, orthopedic, and emergency departments.

The research targeted only registered nurses working in these selected hospitals, ranging from junior to senior nurses with varying levels of experience. It excluded other healthcare workers, such as doctors or auxiliary staff, since the primary focus is on nursing practices. Data collection occurred over a period of four months to ensure comprehensive coverage of the study population. This study did not extend to healthcare facilities outside Benin City, and it

did not focus on non-tertiary hospitals or primary healthcare centers. The findings was specific to the selected tertiary hospitals, though they may provide insights applicable to other similar healthcare settings in Nigeria or other low-resource environment

## CHAPTER TWO

### LITERATURE REVIEW

#### 2.1 INTRODUCTION

Wound care is a crucial aspect of healthcare, significantly affecting patient recovery and overall health outcomes. Effective wound care not only accelerates healing but also prevents complications such as infections, chronic wounds, and even life-threatening conditions like sepsis. The quality of wound management is particularly important in tertiary hospitals, where patients with more complex, severe, or chronic wounds often receive care. The timely and proper management of these wounds is essential to reducing hospital stay duration, decreasing morbidity, and improving the quality of life for patients (White, 2008).

Nurses play a pivotal role in the management of wounds, especially in tertiary healthcare settings, where they are responsible for the assessment, treatment, and monitoring of wound healing. Their role encompasses more than just applying dressings—it involves the holistic management of the patient's condition, including pain management, infection prevention, patient education, and emotional support. Nurses are often the first healthcare providers to identify complications in wound healing, making their knowledge and practices central to the prevention of adverse outcomes (Awoke *et al.*, 2022). In this context, adherence to best practices in wound care, including evidence-based protocols, is essential for optimal patient care (Hollinworth and White, 2006).

However, despite the critical role nurses play, the practical application of wound care practices often varies due to factors such as limited resources, insufficient training, and inconsistencies in adherence to clinical guidelines. Studies conducted in various African countries, including Nigeria, show that these challenges can result in suboptimal care, particularly in resource-constrained settings (Obilor *et al.*, 2021; Getie *et al.*, 2020). For instance, a study by Ofoegbu and Onwudiegwu (2020) highlights how knowledge gaps and

lack of adequate materials impede nurses' ability to provide quality wound care in Nigerian tertiary hospitals.

The literature review aims to explore the existing body of knowledge related to wound care practices and the factors influencing these practices, particularly among nurses in tertiary hospitals. It will examine global best practices, highlight studies conducted in Africa and Nigeria, and identify gaps that may contribute to substandard care. By reviewing these aspects, this study seeks to provide a comprehensive understanding of wound care practices, with the aim of informing policy and improving the quality of care in tertiary healthcare institutions. The findings from this review will also provide a foundation for assessing the current state of wound care practices among nurses in Benin City, Nigeria, offering insights into how challenges can be addressed to improve patient outcomes (Tegegne *et al.*, 2022; Gizaw *et al.*, 2022).

## **2.2 CONCEPTUAL FRAMEWORK**

In the context of wound care, a clear understanding of the core concepts is essential for effective clinical practice. These concepts include the types of wounds, wound management techniques, and the overall significance of wound care in the healthcare system.

### **2.2.1 Wound Care**

Wound care is the comprehensive process of treating different types of wounds with the goal of promoting healing, preventing infections, and reducing complications. Wounds are typically classified into two main categories: acute and chronic.

- **Acute wounds** include injuries like cuts, abrasions, burns, and surgical wounds. These wounds usually heal within a short period, following the normal stages of wound healing: hemostasis, inflammation, proliferation, and remodeling (Adejumo 2014). Acute wounds are often less complicated but require appropriate and timely interventions to prevent infection.

- **Chronic wounds**, such as pressure ulcers, diabetic foot ulcers, and venous leg ulcers, are more complex and require long-term care. These wounds do not progress through the normal stages of healing and are more prone to complications like infection or necrosis (Builders and Oseni-Momodu, 2020). Chronic wounds are prevalent in Nigeria due to the high incidence of diabetes, malnutrition, and poor access to healthcare services (Anumah *et al.*, 2021). Their management often requires advanced wound care strategies and consistent monitoring.

In clinical practice, effective wound care involves a thorough understanding of the wound's etiology, the patient's health status, and potential risk factors such as poor circulation or comorbidities like diabetes (Ogundeji *et al.*, 2018).

Wound care is the skill of irrigating the wound with normal saline and in case, if the wound is dirty, use povidone-iodine solution or hydrogen peroxide solution to remove exudates, slough, necrotic debris, bacterial contaminants, and dressing residue without adversely impacting cellular activity which promotes the healing process and protects the wound from further harm. (Harris *et al.*, 2017) Due to inadequate nursing postoperative wound management, surgical site infections (SSI) are the most common postoperative complications in surgical patients that cause substantial postoperative morbidity, mortality, and disability which in turn contribute to the prolonged hospital stay, and increase healthcare costs (Gould, 2012). The problem is more prominent in low-income countries where resources are scarce, and staff are always in short supply (Bhangu, 2016). Seventy-five percent of surgical patient deaths are related to infection directly associated with poor postoperative wound management (Gould, 2012). Postoperative wound infections are the major public health concerns that affect the patients' quality of life in many dimensions.<sup>4</sup> Pieces of literature reported that surgical site infection rates in Africa range from 2.5% to 34.6% following various types of surgical procedures (Gizaw *et al.*, 2022).

### 2.2.2 Wound Management Techniques

The success of wound care depends heavily on the techniques employed to manage the wound environment and promote healing. Key techniques include:

- **Wound Dressing:** Dressing wounds with appropriate materials is crucial to creating a moist environment conducive to healing and preventing contamination (Ogundeji *et al.*, 2017). In Nigeria, standard dressings such as gauze and bandages are common, though access to more advanced options like hydrocolloids, foam dressings, and antimicrobial dressings is limited in many healthcare settings due to resource constraints (Obilor *et al.*, 2016).
- **Infection Prevention:** One of the primary goals in wound management is the prevention of infection, which can delay healing and lead to further complications. Nurses must adhere to strict aseptic techniques during dressing changes and wound cleaning, using antiseptic solutions to disinfect the wound and prevent bacterial colonization (Adejumo, 2014). Infection is a major concern in chronic wounds, especially in environments where hospital-acquired infections are prevalent due to inadequate sterilization and overcrowded facilities.
- **Debridement:** Removing dead or infected tissue from chronic wounds is often necessary to promote healthy tissue regeneration and reduce bacterial load. Mechanical, enzymatic, or autolytic debridement techniques are commonly employed depending on the wound's condition (Builders and Oseni-Momodu, 2020).
- **Pain Management:** Addressing pain is a critical aspect of wound care, particularly for patients with chronic wounds who experience discomfort during dressing changes and treatments. Analgesics or topical anesthetics may be used to manage pain effectively, ensuring that patients can tolerate necessary care without exacerbating stress (Michael, 2022).

### **2.2.3 Importance of Wound Care in Healthcare**

Effective wound care is a cornerstone of modern healthcare due to its significant impact on patient recovery, quality of life, and overall healthcare costs. Proper wound management can prevent serious complications such as sepsis, amputation, and long-term disability, particularly in patients with chronic conditions like diabetes (Raheem *et al.*, 2019). In Nigeria, where healthcare resources are often stretched thin, improving wound care practices is crucial to reducing the burden of chronic wounds and preventing preventable deaths (Danmusa *et al.*, 2016). Furthermore, inadequate wound care can lead to prolonged hospital stays, increased treatment costs, and a higher demand for healthcare services.

The socio-economic burden of chronic wounds in Nigeria is substantial, with direct healthcare costs associated with wound care, particularly for disadvantaged populations with limited access to advanced treatments (Ogundeji *et al.*, 2018). Addressing these challenges requires a focus on improving the availability of wound care materials, training healthcare personnel, and promoting awareness of best practices.

### **2.2.4 Nursing Care Frameworks Relevant to Wound Management**

Nursing frameworks such as Orem's Self-Care Deficit Theory also play a critical role in wound care management. According to Orem, patients engage in self-care to maintain their health and well-being, but when they are unable to meet their self-care needs—such as wound care—nurses step in to bridge the gap. In this context, nurses not only provide wound care but also educate patients on how to manage their wounds at home, fostering independence and preventing complications (Getie *et al.*, 2020). Orem's theory is particularly relevant in tertiary care settings where nurses must help patients understand their role in recovery post-surgery or after discharge.

Leininger's Transcultural Nursing Theory also provides valuable insights into wound care, especially in diverse healthcare settings like those found in Nigeria. Leininger emphasizes the

need for culturally sensitive care, recognizing that patients' beliefs and values can influence how they perceive and manage their health, including wound care. For example, some cultures may prefer traditional healing methods over medical interventions, requiring nurses to incorporate cultural competence into their wound care practices to enhance patient compliance and outcomes (Bhangu, 2016).

### **2.2.5 Wound Healing Processes and the Role of Nurses in Various Stages of Healing**

Wound healing is a complex, multi-stage process that requires meticulous care at each phase to prevent complications and promote recovery. The four stages of wound healing are hemostasis, inflammation, proliferation, and remodeling (Gould, 2012). The wound healing process is essential to the body's response to injury and involves a series of complex, overlapping stages. Nurses play an integral role in ensuring that the wound progresses through each stage properly, minimizing complications and promoting optimal healing outcomes. Below is an expanded description of the stages of wound healing and the critical role nurses play in each phase.

#### **Hemostasis**

The hemostasis stage is the body's initial response to injury, immediately following the trauma. In this phase, blood vessels constrict, and platelets form a clot at the wound site to stop the bleeding. The formation of the clot is crucial, as it serves as a temporary matrix for the healing process. Nurses play a vital role in this stage by taking immediate steps to ensure the wound is clean and sterile, reducing the risk of infection. They are responsible for applying pressure to stop the bleeding, dressing the wound to protect it, and ensuring the patient's comfort.

One of the most critical tasks for nurses at this stage is ensuring that proper aseptic techniques are followed during wound cleaning to prevent contamination. For example, sterile dressings should be applied to avoid bacterial entry and further trauma to the wound.

In cases of surgical wounds, ensuring that sutures or staples are correctly applied and not compromised is a key nursing responsibility (Harris *et al.*, 2017). By promoting hemostasis, nurses not only prevent excessive blood loss but also lay the foundation for smooth progression to the next healing stage.

### **Inflammation**

After hemostasis, the inflammation stage occurs, typically lasting for several days. During this phase, the body sends white blood cells to the wound to clean the site of bacteria, dead cells, and other debris, initiating the healing process. The primary function of inflammation is to protect the wound from infection. However, prolonged or excessive inflammation can lead to chronic wounds, which require more advanced care.

Nurses monitor the classic signs of inflammation, including redness, swelling, warmth, and pain around the wound site. Their role is crucial in identifying early signs of infection, such as pus formation, abnormal pain, or an increase in wound drainage. Timely intervention, such as administering antibiotics or adjusting wound dressings, can help prevent the development of chronic wounds and reduce the patient's risk of complications (Gould, 2012).

Moreover, during this phase, nurses educate patients about infection control, teaching them proper hand hygiene, dressing changes, and how to avoid contamination. For patients with comorbidities like diabetes or compromised immune systems, nurses may need to take extra precautions, such as using advanced dressings or implementing specific antimicrobial therapies, to help manage inflammation and protect the wound.

### **Proliferation**

The proliferation stage is where active tissue repair occurs, typically lasting from day 3 to day 21 after injury. During this phase, new blood vessels form (angiogenesis), and granulation tissue begins to fill the wound bed. Collagen deposition also strengthens the wound, and epithelial cells migrate across the wound surface to form new skin.

Nurses are responsible for ensuring that the wound environment is conducive to tissue regeneration. One of the key roles during this stage is maintaining a moist wound environment, as this has been shown to accelerate cell migration and improve healing outcomes (Harris *et al.*, 2017). Various dressings, such as hydrogels, alginates, or foam dressings, may be used depending on the wound's moisture requirements. Nurses must carefully select the appropriate dressing type to balance moisture without causing maceration (softening or breakdown of surrounding skin).

Additionally, nurses ensure that the wound is protected from mechanical stressors, such as pressure or friction, which could delay healing. For patients who are bedridden or immobile, nurses play a crucial role in preventing pressure ulcers, ensuring that patients are regularly repositioned to avoid prolonged pressure on the wound site (Getie *et al.*, 2020). In surgical wounds, nurses also monitor for dehiscence, where the wound edges reopen, and take action to support the wound and prevent further injury.

### **Remodeling (Maturation)**

The final stage of wound healing is remodeling, which can last from weeks to several months, depending on the wound size and patient factors. During this phase, collagen fibers in the wound are reorganized, and the wound continues to gain strength as scar tissue forms.

However, the tissue that forms is only about 80% as strong as the original tissue, meaning the wound remains vulnerable to reinjury even after it has healed (Harris *et al.*, 2017). Nurses have a critical role in monitoring the scar formation and ensuring that the wound is healing properly. They educate patients on how to care for the healing wound and prevent reinjury by avoiding activities that could stress the new tissue. For instance, in patients recovering from surgical wounds, nurses might advise them to avoid lifting heavy objects or engaging in strenuous activity during the early stages of recovery. Additionally, if hypertrophic or keloid scars (excessive scar tissue formation) are observed, nurses may collaborate with physicians

to recommend scar management treatments, such as silicone gel sheets or corticosteroid injections, to reduce excessive scarring (Harris *et al.*, 2017).

Nurses also assist patients with long-term wound care, especially for chronic wounds or those complicated by underlying health conditions like diabetes. This may involve ongoing monitoring, frequent dressing changes, or the use of advanced therapies such as negative pressure wound therapy (NPWT) to support wound closure. During this phase, patient education remains a key focus, particularly on managing any remaining signs of infection, pain, or scarring. Nurses also ensure that patients are referred for follow-up care if necessary to optimize long-term healing outcomes.

### **2.3 Current Wound Care Practices**

Wound care has become an area of significant global focus due to its direct impact on patient outcomes, healthcare costs, and overall well-being. The prevalence of chronic wounds, surgical wounds, pressure ulcers, and other wound types has led to the development of global best practices, clinical guidelines, and interventions that aim to standardize wound care across diverse healthcare settings. This section provides a review of these global standards and guidelines, emphasizing evidence-based wound care practices and their outcomes.

#### **2.3.1 Best Practices in Wound Care**

Wound care management is a dynamic field that incorporates a range of interventions based on the type of wound, patient health status, and the healthcare setting. International standards and guidelines provide healthcare professionals, especially nurses, with evidence-based recommendations for optimizing wound healing while minimizing complications such as infections or chronic wound development. Key aspects of these best practices include proper wound assessment, selection of appropriate dressings, infection control, and pain management.

## **Global Standards and Guidelines for Wound Care**

International frameworks and guidelines, such as those from the World Union of Wound Healing Societies (WUWHS) and the European Wound Management Association (EWMA), outline best practices for wound care across different regions. These organizations emphasize a patient-centered, multidisciplinary approach to wound management, incorporating advances in technology and materials for more effective care. For instance, the WUWHS stresses the importance of timely and accurate wound assessment, recommending that healthcare providers regularly evaluate the size, depth, and exudate levels to ensure proper healing progression (Meaume *et al.*, 2004).

In the UK, the National Institute for Health and Care Excellence (NICE) provides comprehensive wound care guidelines, especially focusing on chronic wounds like pressure ulcers and diabetic foot ulcers. These guidelines emphasize the need for risk assessment tools, wound debridement, infection control, and regular reassessment to prevent complications and ensure healing (Doughty, 2006). Similarly, in North America, the Wound, Ostomy, and Continence Nurses Society (WOCN) promotes the use of advanced wound dressings, moisture-retentive dressings, and negative pressure wound therapy (NPWT) to promote healing and reduce wound size (Molan, 2001).

## **Evidence-Based Wound Care Interventions and Their Outcomes**

Wound care interventions have evolved significantly, with evidence supporting a variety of advanced treatments that enhance the wound healing process. These interventions are guided by the wound type, etiology, and patient condition, ensuring that care is both personalized and effective. Below are some key evidence-based wound care interventions used globally:

### **Moist Wound Healing Environment**

One of the most widely adopted principles in modern wound care is maintaining a moist wound environment, which has been shown to accelerate healing, reduce pain, and minimize

scarring. Moist wound healing promotes epithelialization, prevents tissue dehydration, and supports the action of growth factors and cytokines involved in tissue repair (Meaume *et al.*, 2004). Dressings such as hydrogels, foam dressings, and alginates help to maintain the ideal moisture balance, which is critical for the proliferation and remodeling phases of wound healing. The shift from traditional gauze dressings, which can dry out wounds and cause pain during dressing changes, to moist dressings has significantly improved patient comfort and healing outcomes (Bethell, 2003).

### **Advanced Wound Dressings and Therapies**

The selection of appropriate dressings and adjunct therapies plays a central role in wound care. For example, negative pressure wound therapy (NPWT) has gained widespread acceptance for the management of complex wounds, including surgical wounds, pressure ulcers, and traumatic wounds. NPWT applies controlled suction to the wound bed, removing excess exudate, reducing edema, and promoting granulation tissue formation (Meaume *et al.*, 2004). Studies have shown that NPWT can significantly reduce wound healing time and lower the risk of infection in chronic wounds.

In addition to NPWT, the use of honey as a topical antibacterial agent has garnered attention due to its natural antimicrobial properties and effectiveness in promoting wound healing. Honey's ability to create a moist environment, combined with its antibacterial properties, has made it a valuable tool in managing infected wounds and enhancing tissue repair (Molan, 2001).

### **Infection Control and Antimicrobial Dressings**

Preventing infection is critical to wound care, especially in high-risk wounds such as surgical wounds or those in immunocompromised patients. Antimicrobial dressings, often containing silver, iodine, or honey, are used to reduce the risk of infection and promote healing. Silver dressings, in particular, have been shown to be effective in controlling bacterial growth in

wounds while preventing biofilm formation, which can impede healing (Bethell, 2003). Nurses are often tasked with selecting the appropriate antimicrobial dressing based on the wound's condition, ensuring that the dressing promotes healing without causing tissue irritation or delaying wound closure (Hollinworth, 2005).

### **Pain Management in Wound Care**

Pain is a significant concern in wound management, especially during dressing changes or debridement procedures. Studies such as the MAPP study have demonstrated the importance of selecting dressings that minimize pain during routine wound care (Meaume *et al.*, 2004). Soft silicone dressings and foam dressings are often preferred because they adhere gently to the wound, causing minimal disruption during dressing changes. Pain management is not limited to physical interventions, as nurses also play a critical role in providing psychological support to patients experiencing wound-related pain (Hollinworth, 2005).

### **Debridement and Wound Cleansing**

Debridement, the removal of dead or infected tissue, is another cornerstone of evidence-based wound care. Sharp debridement, carried out by skilled healthcare providers, is often the fastest way to remove necrotic tissue and promote healing. However, enzymatic and autolytic debridement methods, which use moisture-retentive dressings to naturally break down dead tissue, are also widely practiced in settings where surgical debridement is not feasible (Doughty, 2006). Proper wound cleansing with non-cytotoxic solutions is essential in preventing infection and promoting a healthy wound bed.

### **Outcomes of Evidence-Based Wound Care**

Evidence-based interventions in wound care have been linked to improved patient outcomes across various healthcare settings. Reduced healing times, lower infection rates, and enhanced patient comfort are among the primary benefits of following global wound care guidelines. For example, studies have shown that maintaining a moist wound environment

can reduce healing time by up to 50% in some cases (Bethell, 2003). Similarly, the use of antimicrobial dressings has been associated with fewer wound infections and a lower incidence of chronic wound development (Gould, 2012).

### **2.3.2 Nurses' Knowledge and Skills in Wound Management**

Nurses play a pivotal role in wound care management, and their knowledge and skill competency are essential for promoting optimal wound healing and preventing complications. Several studies have examined the levels of knowledge, practical skills, and the overall competency of nurses in wound management, as well as the relationship between ongoing training and the quality of care provided. In this section, the importance of nurse education in wound care is explored, with a focus on the correlation between enhanced training and improved patient outcomes.

#### **Studies on the Level of Knowledge and Skill Competency Among Nurses**

Numerous studies have highlighted that the level of knowledge and skills in wound care among nurses varies significantly, often depending on the training they receive and the setting in which they practice. For instance, a comprehensive hospital-based wound survey conducted by Mahé *et al.* (2006) indicated that while many nurses were familiar with basic wound care principles, gaps existed in more advanced wound management techniques, such as the use of modern dressings and wound assessment tools. This discrepancy in knowledge can lead to inconsistencies in care delivery and may affect wound healing outcomes.

A study by Getie *et al.* (2020) further supports this, indicating that nurses with formal education and continuous training in wound care performed better in both wound assessment and intervention selection compared to those who had not undergone specialized training. Their ability to identify infection risks, select appropriate wound dressings, and monitor wound progress was notably higher, leading to better patient outcomes. Moreover, nurses who had participated in wound care seminars or received wound management certifications

demonstrated higher competency in using advanced technologies such as negative pressure wound therapy (NPWT) and advanced antimicrobial dressings (Meaume *et al.*, 2004).

The MAPP study also illustrated that nursing staff with enhanced knowledge of dressing selection could better manage patient pain during routine wound care. It emphasized that without proper training, nurses often defaulted to outdated or less effective methods of care, such as using gauze dressings, which could exacerbate patient discomfort and delay healing (Meaume *et al.*, 2004). Consequently, the study called for a more structured approach to wound care education to ensure consistency in the quality of care provided.

### **Relationship between Training and Quality of Wound Care**

There is a clear and well-documented relationship between nurse training and the quality of wound care delivered. Regular, updated training programs enable nurses to stay informed about the latest evidence-based practices and technologies in wound care, thereby improving patient outcomes. Bethell (2003) emphasizes that when nurses are trained in the selection of modern wound care products, they are more likely to choose dressings that promote moist wound healing, prevent infection, and reduce healing times, as opposed to outdated methods like gauze dressings, which can cause further tissue damage during dressing changes.

In line with this, Doughty (2006) explored how ongoing education, particularly on pain management strategies and the use of advanced dressings, enhanced nurses' ability to deliver patient-centered care. Nurses with specific wound care training were better equipped to manage not only the physical aspects of wound healing but also the psychological challenges patients face, such as anxiety related to pain and wound appearance (Hollinworth, 2005).

Moreover, Gould (2012) found that nurses who underwent structured training programs were more proficient in recognizing early signs of infection and complications, leading to quicker interventions and fewer cases of wound deterioration. Continuous professional development in wound care was also linked to higher patient satisfaction, as nurses were more confident in

their skills and could provide more effective education and support to patients about self-care and wound management at home.

Training also has a direct impact on clinical decision-making. Nurses with more advanced knowledge in wound management are able to tailor interventions to individual patient needs, factoring in variables such as patient comorbidities, wound etiology, and environmental factors. For instance, trained nurses are more likely to use advanced debridement techniques, which remove necrotic tissue efficiently without damaging healthy tissue, accelerating the wound healing process (Doughty, 2006). In contrast, nurses with limited training may delay necessary interventions, increasing the risk of chronic wounds.

In conclusion, the level of training and education nurses receive in wound management directly influences the quality of care they provide. Studies consistently demonstrate that nurses who engage in continuous learning and who possess a high level of competency in wound care contribute to better patient outcomes, including faster wound healing, fewer infections, and improved patient comfort. As such, fostering a culture of lifelong learning and professional development in wound care is essential for optimizing care in tertiary healthcare settings.

### **2.3.3 Wound Care Practices in African Healthcare Systems**

Wound care practices across African healthcare systems present unique challenges and opportunities, largely influenced by socioeconomic factors, availability of medical resources, and institutional frameworks. Studies on wound care in African nations often reveal disparities in practice, reflecting the resource limitations faced by many healthcare facilities. Despite these challenges, there are opportunities to improve wound care through better training, resource allocation, and adherence to global best practices.

One of the key challenges is the scarcity of advanced wound care products and technologies. In many low-resource settings, nurses and healthcare professionals often rely on basic

materials, such as gauze and bandages, which are less effective for managing complex wounds. Mahé *et al.* (2006) conducted a hospital-based wound survey and found that a significant number of African healthcare facilities lack advanced wound care materials, which hinders optimal care. In contrast, wealthier nations in Africa, like South Africa, have begun integrating more modern wound care products, such as antimicrobial dressings and negative pressure wound therapy (NPWT), into their healthcare systems, but these remain unavailable to the majority of healthcare providers across the continent.

Another challenge is the lack of consistent wound care protocols across African hospitals. In many settings, nurses and healthcare professionals do not always have access to standardized guidelines for wound care management. As a result, practices vary widely, even within the same country or hospital system. A cross-sectional study by Awoke *et al.* (2022) in South Ethiopia revealed that only 37.9% of nurses had good pressure injury prevention practices, largely due to inconsistencies in knowledge and protocols. This variation in practices is often exacerbated by a lack of formal wound care training for nurses and other healthcare professionals.

In Ethiopia, for example, studies by Getie *et al.* (2020) and Dilie and Mengistu (2015) demonstrated that nurses often lack the necessary knowledge and skills to effectively prevent and manage pressure ulcers. The absence of standardized wound care protocols and limited training opportunities contribute to suboptimal patient outcomes. Mwebaza *et al.* (2014) also found that in Uganda, nurses' knowledge and practice of pressure ulcer care were inadequate due to insufficient training and limited resources. At the same time, there are opportunities to improve wound care in African healthcare systems. Training and education have been identified as critical factors in improving wound care practices. Studies have shown that nurses who receive specialized training in wound care are more likely to adhere to best practices and achieve better patient outcomes. Awoke *et al.* (2022) found that nurses with a

bachelor's degree or higher, as well as those with more than 10 years of nursing experience, were more likely to engage in proper pressure injury prevention practices. This suggests that investing in the education and professional development of healthcare workers is a key strategy for improving wound care across African nations.

Moreover, healthcare systems in Africa can benefit from partnerships with international organizations and initiatives aimed at improving wound care. Global health initiatives have provided some African hospitals with access to modern wound care products, training, and protocols. These initiatives have helped to raise the standard of care in some regions, but more work is needed to expand access to underserved areas.

### **Differences in Wound Care Protocols and Outcomes in African Hospitals**

Differences in wound care protocols and outcomes are evident across African hospitals, with variation largely stemming from the availability of resources and institutional support. In wealthier African nations or urban areas, healthcare facilities are more likely to follow global wound care standards and have access to advanced products. For instance, Mersal (2014) found that hospitals in Cairo, Egypt, have implemented comprehensive protocols for the prevention of pressure ulcers, which has contributed to better patient outcomes compared to hospitals in rural areas.

In contrast, hospitals in lower-income or rural regions of Africa often struggle to provide even basic wound care. A study conducted by Getaneh *et al.* (2019) in Eastern Ethiopia found that nurses working in government hospitals faced numerous challenges in implementing surgical site infection prevention practices due to limited access to resources, such as sterile dressings and antibiotics. These limitations result in higher rates of wound infection and poorer patient outcomes compared to better-resourced hospitals.

Another important factor is the level of institutional support for wound care. In hospitals where wound care is prioritized and institutional protocols are in place, nurses are more likely

to adhere to best practices. El Enein and Zaghloul (2011) found that hospitals in Alexandria, Egypt, that had implemented specific protocols for pressure ulcer prevention saw lower rates of pressure ulcers compared to hospitals that lacked such protocols.

Despite the challenges, some African hospitals have made significant strides in improving wound care outcomes. For instance, hospitals that participate in international wound care initiatives often report better outcomes due to access to modern wound care materials and training. Price *et al.* (2008) reported that international partnerships have helped hospitals in countries like South Africa and Kenya improve their wound care outcomes by providing access to advanced dressings and training programs for healthcare workers.

In conclusion, wound care practices in African healthcare systems are shaped by numerous factors, including the availability of resources, training, and institutional support. While there are significant challenges, such as inconsistent protocols and limited access to modern wound care products, there are also opportunities for improvement through education, partnerships, and the implementation of standardized guidelines. As more African hospitals adopt global best practices in wound care, patient outcomes are expected to improve across the continent.

## **2.4 THEORETICAL FRAMEWORK**

In wound care, several theoretical models inform and structure best practices, enhancing patient outcomes through a focus on physiological, systemic, and practical factors. This section will discuss key theories: the Moist Wound Healing Theory, the TIME Framework for wound bed preparation, and the Nursing Process Theory. Each theory contributes a unique perspective and set of strategies for effective wound care management.

### **2.4.1 Moist Wound Healing Theory**

The Moist Wound Healing Theory suggests that maintaining a moist environment at the wound site is optimal for healing, as it fosters tissue regeneration and reduces scab formation. This theory challenges traditional approaches of dry wound healing and emphasizes the physiological benefits of moisture retention, which include reduced pain, lower infection rates, and faster healing. Dressings that align with this theory, such as hydrogels and hydrocolloids, are designed to maintain moisture balance and create a supportive environment for cell growth and recovery (Harris *et al.*, 2017).

### **2.4.2 Time Framework for Wound Bed Preparation**

The TIME Framework is a structured model that identifies four critical elements of wound bed preparation: Tissue management, Inflammation and infection control, Moisture balance, and Edge of the wound assessment. This framework provides a step-by-step approach to wound care, emphasizing assessment and tailored interventions at each stage of healing (Gould, 2012). Through this model, nurses can effectively identify underlying physiological barriers to healing and adapt treatment strategies based on the wound's specific needs, making the TIME Framework particularly valuable in managing chronic and complex wounds.

### **2.4.3 Nursing Process Theory by Ida Jean Orlando**

The Nursing Process Theory developed by Ida Jean Orlando is a widely used framework that facilitates systematic, patient-centered care through five stages: assessment, diagnosis, planning, implementation, and evaluation. In wound care, this theory enables nurses to continuously assess a patient's condition, identify wound care needs, and apply evidence-based interventions. The cyclical process of assessing and re-evaluating the patient's wound status allows nurses to make timely adjustments to care plans, addressing complications as they arise (Obilor *et al.*, 2021). This patient-centered approach is especially effective for tailoring wound care to the individual's condition, which is essential in achieving optimal healing.

### **2.4.4 Application of Theoretical Frameworks to this Study**

These theoretical frameworks provide a foundation for examining wound care practices among Nigerian nurses, as they offer structured methods for evaluating and enhancing clinical decisions. The Moist Wound Healing Theory highlights the importance of understanding wound physiology and selecting appropriate dressings, which will be assessed to determine adherence to best practices. The TIME Framework offers a systematic approach that can be directly applied to evaluate nurses' proficiency in wound assessment and management, ensuring each aspect of wound bed preparation is considered. Finally, the Nursing Process Theory by Orlando supports the assessment of patient-centered practices among nurses, allowing this study to explore how effectively nurses follow systematic, individualized care plans in wound management. Together, these frameworks will serve as a basis for assessing and understanding the gaps and adherence levels in wound care practices in Nigeria.

## **2.5 EMPIRICAL REVIEW**

### **2.5.1 Studies on Wound Care Practices in Nigeria**

Wound care in Nigerian tertiary hospitals is an area of concern due to the high prevalence of chronic wounds, especially pressure ulcers, diabetic foot ulcers, and trauma-induced wounds. Various studies have explored the knowledge, attitudes, and practices of nurses and healthcare providers in managing wounds, along with the challenges they face. These studies highlight both strengths and gaps in wound care, providing insights into improving patient outcomes, resource allocation, and professional development for nurses and other healthcare professionals.

Ilesanmi *et al.* (2022) conducted a pilot survey in Ogun State to assess nurses' knowledge of pressure ulcer prevention, which is one of the major concerns in wound care. The results revealed significant gaps in knowledge, with many nurses lacking the requisite understanding of effective pressure ulcer prevention techniques. The study also pointed out that inadequate training and poor access to updated wound care resources contributed to this gap. The findings underscore the need for continuous education and improved wound care protocols to reduce the incidence of pressure ulcers, which are preventable with proper care.

Similarly, Uba *et al.* (2023) conducted a study at the University of Maiduguri Teaching Hospital to evaluate the knowledge, attitude, and practices of nurses toward pressure ulcer prevention. The study found that while nurses had a positive attitude toward preventing pressure ulcers, there was a significant deficit in practical knowledge, which hampered effective prevention measures. These findings are consistent with Ilesanmi *et al.*'s conclusions, suggesting that inadequate training and experience, particularly in using advanced wound care technologies, limit the effectiveness of wound care in many tertiary institutions.

Wound care for diabetic patients is another significant challenge, particularly with the rising incidence of diabetes in Nigeria. Anumah *et al.* (2021) explored the management outcomes of diabetic foot ulcers in a teaching hospital in Abuja. Their study revealed that many patients with diabetic foot ulcers experienced prolonged hospital stays and poor wound healing outcomes. The study identified delayed presentation, poor wound care practices, and inadequate follow-up as the major factors contributing to poor management outcomes. The authors recommended the implementation of multidisciplinary wound care teams to improve the prognosis for patients with diabetic foot ulcers. These teams would include diabetic specialists, wound care nurses, and physiotherapists, working together to enhance patient outcomes.

Builders and Oseni-Momodu (2020) conducted a survey on wound care practices in the surgical department of an urban clinical setting in northern Nigeria. The findings from this study were alarming, as they revealed that wound care was not given the priority it deserved, leading to a high rate of wound infection and delayed healing. The study cited a lack of specialized wound care training and inadequate resources as major factors contributing to these poor outcomes. The authors recommended that healthcare institutions allocate more resources to wound care training and adopt evidence-based wound care protocols to improve the quality of care.

Wound care is also a significant economic burden on patients and healthcare facilities. Ogundeji *et al.* (2018) examined the economic burden of wound care in a Nigerian teaching hospital. The study found that wound care was expensive for most patients, many of whom paid out-of-pocket due to the limited coverage of wound care under health insurance schemes. This financial burden often led to poor compliance with treatment regimens and contributed to the recurrence of wounds. The authors called for the expansion of health insurance

coverage to include comprehensive wound care services, which would alleviate the financial burden on patients and improve wound care outcomes.

Further evidence of the economic implications of wound care was highlighted by Danmusa *et al.* (2016), who examined the prevalence and healthcare costs associated with diabetic foot ulcers at Ahmadu Bello University Teaching Hospital. They found that patients with diabetic foot ulcers not only required frequent hospital visits but also incurred significant out-of-pocket expenses for dressings, medications, and follow-up care. The high cost of care, coupled with the chronic nature of diabetic wounds, places a heavy financial burden on patients and healthcare providers alike. The study underscored the need for healthcare policies that would reduce the cost of managing chronic wounds, especially for vulnerable populations such as diabetic patients.

Wound-related pain (WRP) is another critical issue in wound care, especially in relation to dressing changes and wound management practices. Obilor *et al.* (2021) assessed patients' WRP experiences in University College Hospital, Ibadan. Their findings revealed that a significant proportion of patients experienced moderate to severe pain at rest and during wound dressing changes. The study pointed out that inappropriate wound handling, poor pain management strategies, and lack of patient-centered care contributed to this issue. Obilor and colleagues emphasized the importance of integrating pain assessment into wound care protocols to improve patient comfort and wound healing outcomes.

The knowledge and practice of wound assessment and documentation also play crucial roles in wound care management. Adejumo (2020) explored nurses' knowledge of wound assessment tools and their documentation practices at the National Orthopaedic Hospital, Lagos. The study revealed a significant knowledge gap among nurses, with many unfamiliar with basic wound assessment tools and methods. The findings showed that only a small fraction of the nurses could accurately cite the appropriate methods for wound assessment,

such as the photographic method or physical observation. This lack of knowledge resulted in inconsistent and inadequate wound care documentation, which in turn affected patient outcomes. Adejumo called for regular training and the introduction of standardized wound care protocols to ensure better assessment and documentation practices.

Patient satisfaction with wound care services is another aspect that has been examined in Nigerian hospitals. Michael (2022) conducted a study on patient satisfaction with wound care services in an outpatient setting in Kano. The results showed that while overall satisfaction was high, a significant number of patients expressed dissatisfaction with specific aspects of care, such as advice on home wound care and waiting times. The study identified several predictors of patient satisfaction, including employment status, wound location, and the need for assistive devices such as wheelchairs. Addressing these factors could lead to improved patient satisfaction and better wound care outcomes.

Lastly, the socio-demographic factors that influence the cost of wound care have also been studied. Damilare and RM (2024) investigated the socio-demographic correlates of inpatient wound care costs in Nigeria. Their study found that patients' age, education level, and occupation had little correlation with the cost of wound dressing per acute care episode. However, family size was identified as a significant factor, with larger families incurring higher costs. These findings highlight the complex interplay between socio-economic factors and wound care costs, further emphasizing the need for policies that make wound care more accessible and affordable for all patients.

### **2.5.2 Adherence to Wound Care Practices**

The case studies and research findings outlined above provide a comprehensive overview of wound care practices in Nigerian tertiary hospitals. The consistent themes of knowledge gaps, economic challenges, and the need for improved pain management and patient-centered care

underscore the challenges faced by healthcare providers and patients alike. To address these challenges, continuous education, evidence-based practice, and expanded health insurance coverage for wound care services are essential. Moreover, adopting a multidisciplinary approach to wound management, particularly for chronic conditions such as diabetic foot ulcers, will be crucial in improving patient outcomes in Nigeria's healthcare system.

Adherence to wound care practices is vital for achieving optimal patient outcomes, preventing complications, and maintaining the quality of care in healthcare settings. Several factors influence the degree to which healthcare providers, particularly nurses, adhere to best practices in wound management. These factors include knowledge, availability of resources, institutional policies, patient characteristics, and the healthcare environment itself. Various studies have highlighted these factors, providing insights into the challenges and opportunities for improving adherence to wound care protocols.

One critical factor influencing adherence is nurses' knowledge and training. Nurses equipped with adequate knowledge of wound management are more likely to adhere to standardized care practices. Ilesanmi *et al.* (2022) noted that nurses who had received specific training on pressure ulcer prevention exhibited better adherence to recommended practices. Similarly, Kaddourah *et al.* (2016) found that a lack of continuous professional education led to knowledge gaps that contributed to poor adherence. This underscores the importance of ongoing education in maintaining high standards of care.

Resource availability plays a crucial role in ensuring adherence. In many healthcare settings, especially in resource-limited environments, the lack of essential supplies such as appropriate dressings and antiseptics can hinder nurses from following best practices. Mahé *et al.* (2022) pointed out that inadequate availability of such resources in hospitals negatively impacted wound care quality. In these settings, nurses may have to improvise, which can lead to inconsistent practices that deviate from established guidelines (Mersal, 2014).

Institutional policies and managerial support are also key in fostering adherence to wound care protocols. Hospitals with well-defined wound care policies tend to have better adherence among staff. Kyaw *et al.* (2018) emphasized that supportive institutional frameworks, regular audits, and professional development contribute to better compliance with wound care standards. When healthcare organizations prioritize wound care and provide clear guidelines, nurses are more likely to follow recommended practices.

However, adherence is not solely dependent on the healthcare system. Patient-related factors, such as wound complexity, pain, and the patient's cooperation, can affect how well healthcare providers follow through with wound care protocols. Michael (2022) found that patients with chronic wounds, or those experiencing high levels of wound-related pain, may unintentionally impede proper care by resisting or avoiding certain treatments. This makes it difficult for nurses to adhere strictly to protocols, as they must adapt their approaches to the patient's needs and comfort levels.

Workload and time constraints also significantly affect adherence to wound care practices. In many healthcare settings, particularly in developing countries, nurses are often faced with an overwhelming patient load, making it difficult to follow wound care routines rigorously. Mwebaza *et al.* (2024) reported that nurses in Ugandan hospitals struggled to adhere to proper wound care practices due to time limitations and heavy workloads, which often left little room for thorough care procedures.

The psychosocial and behavioral attitudes of healthcare workers towards wound care also play a significant role. Nurses who view wound care as a low-priority task are less likely to adhere to best practices, as noted by Hollinworth (2005). In contrast, nurses who recognize the importance of wound care and feel confident in their ability to manage wounds are more likely to maintain high levels of adherence, even in challenging environments.

Pain management is another critical factor affecting both patient and healthcare provider adherence to wound care practices. Effective pain management allows patients to tolerate wound care procedures better, thereby improving adherence to treatment regimens. Meaume *et al.* (2004) highlighted that when pain is properly managed, patients are more cooperative, enabling healthcare providers to follow through with recommended interventions more effectively.

Cultural factors can also influence adherence, particularly in regions where traditional medicine is prevalent. Obilor *et al.* (2019) found that in Nigeria, patients' reliance on traditional healers or cultural remedies sometimes conflicted with the standard medical protocols recommended by nurses. In such cases, healthcare providers may struggle to adhere to established practices when patients prefer alternative treatments.

Technological advancements and innovative treatments have the potential to improve adherence to wound care practices. For instance, Molan (2021) explored the use of honey as a topical antibacterial agent, which has shown promise in managing infected wounds, particularly in resource-limited settings. Such innovations can enhance adherence by providing accessible, cost-effective treatment options that are easy to implement.

Finally, audit and feedback mechanisms are effective tools for promoting adherence to wound care guidelines. Harris *et al.* (2019) found that regular audits of wound care practices, combined with feedback to the nursing staff, significantly improved adherence rates. These mechanisms create accountability and provide opportunities for continuous improvement in wound care practices.

In conclusion, adherence to wound care practices is shaped by a combination of factors, including nurses' knowledge, resource availability, institutional support, patient characteristics, and behavioral attitudes. To improve adherence and ensure optimal patient outcomes, healthcare organizations must invest in continuous education, provide adequate

resources, and foster an environment that prioritizes wound care. Addressing these factors is particularly important in resource-constrained settings like Nigeria, where limited access to essential supplies and heavy workloads pose significant challenges to maintaining high standards of wound care.

### **2.5.3 Factors Affecting Optimal Wound Care Practices**

Wound care practices are influenced by a variety of factors that directly impact the quality of care patients receive. These factors include the knowledge and training of healthcare professionals, the availability of resources, institutional policies, and broader socioeconomic and healthcare infrastructure considerations. This section will explore how these elements contribute to the effectiveness and consistency of wound care practices in both high- and low-resource settings.

#### **Overview of Influencing Factors: Knowledge, Training, Resources, and Institutional Policies**

The quality of wound care provided by healthcare professionals is often determined by their level of knowledge and the training they have received. As previously discussed, nurses with more advanced training in wound care are better equipped to manage complex wounds and prevent complications (Getie *et al.*, 2020). Molan (2001) emphasized that nurses who receive continuous education on wound management, such as training on the use of antimicrobial agents like honey, demonstrate a higher proficiency in preventing and treating infections. Conversely, inadequate training or outdated knowledge can result in poor wound care practices, leading to longer healing times and higher rates of infection.

The availability of resources, including wound care products and technologies, plays a significant role in shaping the quality of wound management. In high-income countries, advanced wound care products, such as negative pressure wound therapy (NPWT), antimicrobial dressings, and specialized wound dressings are readily available, allowing

nurses to provide high-level care that promotes quicker healing and reduces infection rates (Mahé *et al.*, 2006). In contrast, in low-resource settings, nurses often have to rely on more basic materials such as gauze and bandages, which are less effective in managing complex wounds. Bethell (2023) highlights that gauze dressings, while inexpensive, are not ideal for wound healing, particularly for surgical cavity wounds, where more advanced dressings should be prioritized to avoid complications.

Institutional policies and protocols also significantly influence wound care practices. Hospitals that have standardized guidelines for wound care often see better outcomes, as these guidelines ensure consistency in care and adherence to best practices. For example, a study by Doughty (2006) emphasized that having clear institutional strategies for pain management in chronic wounds can greatly improve patient outcomes and minimize wound-related pain. However, in some settings, the absence of such guidelines or inadequate implementation of existing policies can lead to inconsistent practices and poorer outcomes.

#### **2.5.4 Socioeconomic and Healthcare Infrastructure Influences on Wound Care Quality**

The broader socioeconomic and healthcare infrastructure of a region also plays a critical role in wound care quality. In low-income countries, the availability of resources for wound care, including both medical supplies and trained personnel, is often limited. This scarcity can lead to delays in wound healing, higher infection rates, and more frequent complications. Bhangu (2016) highlights the disparity in outcomes of emergency abdominal surgery between high-, middle-, and low-income countries, attributing much of the difference to varying levels of healthcare infrastructure and resource availability.

Socioeconomic factors such as poverty and limited access to healthcare services exacerbate these issues. In many rural or underserved areas, patients may not seek wound care early enough due to financial constraints or lack of access to healthcare facilities, leading to more

severe wound complications by the time they receive medical attention. Furthermore, in some African countries, cultural practices and beliefs may also influence wound care practices, with traditional methods sometimes preferred over modern medical treatments, as noted by Gizaw *et al.* (2022) in Ethiopia.

In summary, factors affecting wound care practices range from individual nurse competencies to broader healthcare infrastructure and socioeconomic conditions. Addressing these challenges through improved training, resource allocation, and institutional policy development is crucial for enhancing wound care quality across different healthcare settings.

### **2.5.5 Factors Influencing Wound Care Practices in Nigeria**

Wound care practices in Nigerian healthcare facilities, particularly tertiary hospitals, are influenced by a variety of factors that include the knowledge and training of nurses, institutional frameworks, availability of resources, and the implementation of policies and guidelines. These elements are crucial in shaping the quality of care that patients with wounds receive across the country.

#### **Nurse Knowledge and Training**

Nurse knowledge and training are fundamental in ensuring effective wound care. Several studies have documented the level of knowledge and skills among nurses regarding wound management in Nigeria. For example, Ilesanmi, Ofi, and Adejumo (2022) conducted a pilot survey on the knowledge of pressure ulcer prevention among nurses in Ogun State, Nigeria, highlighting significant gaps in their awareness and understanding of pressure ulcer prevention strategies. Only 33% of respondents demonstrated knowledge of preventive measures, indicating that continuous education and specialized training on wound care protocols are needed to close this gap. Similarly, Uba *et al.* (2023) explored the knowledge, attitude, and practice of nurses toward pressure ulcer prevention at the University of Maiduguri Teaching Hospital in Borno State. They found that while nurses had a positive

attitude toward pressure ulcer prevention, many lacked adequate knowledge of evidence-based practices, particularly concerning early identification and intervention strategies.

Moreover, Adejumo (2024) highlighted the inadequacy of wound assessment knowledge among nurses in National Orthopaedic Hospital, Lagos. In this study, only a small fraction of nurses were familiar with wound assessment tools such as the Pressure Ulcer Status Tool, and many could not properly document wound healing progress. These studies emphasize that ongoing professional development and certification in wound care management are vital to improving nurses' competencies in Nigeria.

### **Institutional Factors**

Institutional factors, including access to necessary resources, administrative support, and workload, play a critical role in wound care practices in Nigerian hospitals. For instance, Michael (2022) identified that staffing shortages and the lack of adequate wound care facilities contributed to patient dissatisfaction with wound care services in an outpatient setting in Kano. Over half of the participants expressed dissatisfaction with advice on home wound care and the long waiting times, which were partly attributed to institutional constraints such as limited human resources and inadequate facilities.

Ogundeji *et al.* (2018) explored the economic burden of wound care among patients in Nigerian teaching hospitals, suggesting that limited financial resources within healthcare institutions affect wound care outcomes. Many patients, especially those from lower socioeconomic backgrounds, are unable to afford the necessary wound care materials, further complicating the healing process. This economic strain is also reflected in healthcare facilities where limited funding affects the availability of advanced wound care products, such as antimicrobial dressings and negative pressure wound therapy.

## **Policies and Guidelines**

Policies and guidelines are essential in standardizing wound care practices. However, Nigeria faces significant challenges in the implementation and adherence to these guidelines. Although Nigeria has adopted international protocols such as the World Health Organization's (WHO) guidelines for wound management, local adaptation and enforcement remain weak. Builders and Oseni-Momodu (2020) conducted a survey of wound care in a surgical department in northern Nigeria, demonstrating a lack of standardized protocols in practice. The absence of clear guidelines resulted in inconsistent wound care practices, leading to variations in patient outcomes.

The lack of clear national policies on wound care is further compounded by the weak integration of wound care protocols into nursing curricula and the minimal emphasis on wound care in post-graduate training. While some tertiary hospitals have begun adopting protocols for managing diabetic foot ulcers and pressure ulcers, as noted by Anumah *et al.* (2021), these efforts are fragmented, and many facilities still rely on outdated or inadequate guidelines. Moreover, the absence of a national wound care policy hinders the coordination and regulation of wound care services across healthcare institutions.

## **The Role of Continuing Education and Institutional Support**

Continuing education plays a critical role in bridging the knowledge gap among nurses and improving wound care practices in Nigerian hospitals. A cross-sectional study by Adejumo (2014) indicated that many nurses were not familiar with essential wound care assessment tools due to a lack of continuous professional development. Integrating ongoing education into the healthcare system can help healthcare providers stay updated on advancements in wound care technologies and practices. Institutional support is also necessary to ensure that healthcare workers are adequately trained and provided with the necessary tools to offer quality wound care. This includes investment in wound care infrastructure, provision of

modern wound care materials, and fostering a supportive work environment that reduces nurse workload and enhances patient care.

### **Socioeconomic and Cultural Barriers**

In addition to professional and institutional factors, wound care in Nigeria is also shaped by socioeconomic and cultural barriers. A study by Damilare and RM (2024) on the cost of wound dressing per acute care episode in Nigerian hospitals revealed that many patients, particularly those from lower-income groups, struggle to afford the cost of wound care. This financial burden limits access to timely and adequate care, particularly for chronic wounds such as diabetic foot ulcers, leading to complications and prolonged hospital stays.

Cultural beliefs and misconceptions also play a role in wound care practices. Traditional healing methods and the use of herbal remedies, as documented in some rural settings, can delay patients from seeking professional medical care, exacerbating wound infections and complicating recovery processes. There is a need for awareness programs to educate the public on the importance of seeking professional care early and adhering to modern wound care practices.

Wound care practices in Nigerian tertiary hospitals are influenced by a combination of nurse knowledge, institutional factors, and the presence or absence of standardized policies and guidelines. While some progress has been made, such as efforts to improve wound care for diabetic foot ulcers, significant gaps remain in knowledge, training, and resource availability. Continuous professional development, better institutional support, and the implementation of clear national wound care policies are essential to improving wound care outcomes in Nigerian hospitals. Addressing these challenges will require coordinated efforts from healthcare administrators, policymakers, and educators to ensure that healthcare workers are equipped with the skills and tools needed to provide high-quality wound care.

### **2.5.6 Challenges Faced by Nigerian Nurses in Wound Care**

Wound care in Nigeria presents numerous challenges for nurses, many of which stem from systemic issues within the healthcare system and patient-related factors. Limited resources, heavy workloads, training gaps, and the complexity of wounds, among others, influence the quality of care nurses can provide. Understanding these challenges is critical to addressing the gaps in wound care practices and improving patient outcomes.

#### **Limited Resources**

One of the most significant challenges faced by Nigerian nurses in wound care is the limited availability of resources. Many healthcare facilities, particularly public hospitals, suffer from a lack of essential wound care supplies such as appropriate dressings, antiseptics, and advanced wound management tools. This shortage forces nurses to rely on suboptimal materials that may not be suitable for the type of wound being treated, potentially leading to slower healing and increased risk of infections.

A study by Ogunfowokan and Odebiyi (2020) highlighted the scarcity of advanced wound care products, such as antimicrobial dressings and negative pressure wound therapy systems, in many Nigerian hospitals. Nurses often have to improvise with the available resources, which limits their ability to adhere to evidence-based wound care protocols. For example, in some cases, gauze dressings are used in place of modern, moisture-retentive dressings, leading to a higher risk of infection and slower healing rates.

This lack of resources is compounded by insufficient access to basic hygiene facilities. Many healthcare centers struggle with unreliable water supply and lack of proper sanitation, which further complicates wound care practices. Nurses are often unable to follow recommended infection prevention protocols, and this raises the likelihood of cross-contamination in wound care settings.

## **Heavy Workloads**

Nurses in Nigeria are often overburdened with heavy workloads due to staffing shortages, high patient-to-nurse ratios, and the overall demand on the healthcare system. According to Afolabi *et al.* (2019), the nurse-to-patient ratio in many Nigerian tertiary hospitals is often as high as 1:20, far exceeding international recommendations. This heavy workload limits the amount of time nurses can dedicate to each patient, particularly in wound care, which requires attention to detail and regular follow-up.

Heavy workloads also contribute to nurse burnout, fatigue, and decreased job satisfaction. When nurses are overstretched, their ability to provide consistent, high-quality wound care is compromised. They may not have enough time to perform thorough wound assessments, provide patient education, or implement advanced wound care interventions, which are crucial for preventing complications and promoting healing.

## **Training Gaps**

Gaps in formal training and continuing education are another significant challenge for nurses in wound care. Wound care is a specialized area of nursing that requires ongoing training to stay updated with advancements in wound management, but many Nigerian nurses lack access to such education. Although basic wound care is taught in nursing schools, the content is often not comprehensive enough to prepare nurses for the complexities of wound management in clinical settings.

In a survey conducted by Adeyemo and Fapohunda (2022), nurses in tertiary hospitals in southwest Nigeria reported inadequate exposure to modern wound care techniques during their nursing education. Many nurses rely on traditional methods of wound care that are not in line with current best practices, such as using dry gauze for dressing wounds instead of moisture-retentive dressings. The study also emphasized that limited opportunities for continuing education and specialization in wound care further widen the knowledge gap,

leaving many nurses ill-prepared to handle complex wounds or implement evidence-based practices.

### **Patient-Related Factors**

In addition to systemic issues, patient-related factors also pose significant challenges to nurses providing wound care in Nigeria.

Wound Complexity: The complexity of wounds is a critical factor that influences the level of care required. Chronic wounds, such as pressure ulcers, diabetic foot ulcers, and venous leg ulcers, are common in Nigerian hospitals, and these types of wounds require specialized care that many nurses may not be Wound Complexity: The complexity of wounds is a critical factor that influences the level of care required. Chronic wounds, such as pressure ulcers, diabetic foot ulcers, and venous leg ulcers, are common in Nigerian hospitals, and these types of wounds require specialized care that many nurses may not be adequately equipped to provide due to a lack of advanced training and resources. Complex wounds often demand prolonged treatment, frequent dressing changes, and advanced wound care techniques, such as debridement, infection control measures, and the use of specialized dressings, which can be challenging in resource-limited settings.

For instance, diabetic foot ulcers are particularly prevalent due to the rising incidence of diabetes in Nigeria, and they require careful monitoring to prevent severe complications like infections, gangrene, or even amputations. A study by Anumah *et al.* (2017) on the management outcomes of diabetic foot ulcers in Abuja, Nigeria, revealed that a significant number of patients experienced delayed wound healing due to inadequate care protocols, which can often be traced to gaps in nurses' training and the scarcity of appropriate wound care materials.

## **Pain Management**

Pain is another critical patient-related factor that affects wound care. Managing wound-related pain is a significant challenge, especially during dressing changes, which are often painful experiences for patients. Studies have shown that nurses in Nigeria may not have access to or the knowledge of appropriate pain management strategies, such as the use of topical analgesics, pre-medication before dressing changes, or non-pharmacological interventions like relaxation techniques.

A study by Obilor *et al.* (2021) assessing patients' wound-related pain (WRP) experiences in Ibadan found that 91.7% of participants reported moderate to severe pain during dressing changes, with factors such as wound handling, removal of dressings, and cleansing exacerbating the pain. Despite the widespread occurrence of wound-related pain, many nurses reported limited options for pain relief, primarily due to resource constraints, contributing to a diminished quality of care and patient dissatisfaction.

## **Training Gaps in Pain Management**

Effective pain management is an integral part of wound care, but many Nigerian nurses lack comprehensive training in this area. Adejumo (2014) found that nurses in Lagos had inadequate knowledge of wound assessment and related pain management strategies. Nurses were often unable to assess wound pain effectively, leading to under-treatment or inappropriate management of pain, which negatively impacts the healing process and overall patient comfort. The study emphasized the need for continuous professional education programs that include comprehensive training in both wound care and pain management to improve patient outcomes.

## **Heavy Workloads and Burnout**

The combination of limited resources, complex wounds, and inadequate pain management strategies contributes to heavy workloads for Nigerian nurses, leading to burnout and job

dissatisfaction. Nurses in many tertiary hospitals are often overworked, with a high nurse-to-patient ratio that significantly reduces the amount of time available for each patient's wound care. High workloads mean that nurses may not be able to provide the level of care that complex wounds require, leading to delayed healing, increased infection risks, and overall poorer outcomes for patients.

In conclusion, wound care in Nigerian healthcare facilities is fraught with numerous challenges, including limited resources, heavy workloads, training gaps, and patient-related factors such as wound complexity and pain management. Addressing these challenges requires systemic improvements, including increased access to advanced wound care materials, better nurse training in wound care and pain management, and the implementation of policies that reduce nurse workloads and promote higher standards of care. Only by tackling these issues can Nigerian healthcare systems improve the quality of wound care and enhance patient outcomes.

## **2.6 Gaps in the Literature**

The review of existing literature on wound care practices among nurses in Nigeria reveals several gaps that warrant further research. While various studies have explored aspects of wound care, such as nurses' knowledge, institutional factors, and patient-related challenges, there remain significant areas that require deeper investigation:

1. **Limited Research on Rural and Community-Based Settings:** Most of the studies reviewed, such as those by Uba *et al.* (2023) and Adejumo (2014), focus on tertiary or urban hospitals. Little attention has been given to wound care practices in rural or community health settings, where healthcare resources are even more limited. Understanding wound care practices in these settings could provide valuable insights into the disparities in healthcare access and outcomes between urban and rural areas in Nigeria.

2. **Inconsistent Use of Wound Assessment Tools:** Many studies, such as those by Adejumo (2014) and Ilesanmi *et al.* (2022), indicate that nurses' knowledge of wound assessment tools is inadequate, but few studies have explored why these tools are not widely adopted. There is a gap in understanding the barriers to the consistent use of standardized wound care and assessment tools, such as the Pressure Ulcer Status Tool (PUSH) or Braden Scale, particularly in Nigerian healthcare settings.
3. **Insufficient Focus on Patient-Centered Care:** Research, such as Obilor *et al.* (2021), has highlighted the importance of addressing wound-related pain and improving patient experiences. However, there is a lack of studies that focus on integrating patient-centered approaches into wound care, such as shared decision-making, patient education, and strategies to improve patient comfort and satisfaction.
4. **Scarcity of Longitudinal Studies:** Most research in Nigeria focuses on cross-sectional assessments of nurses' knowledge, attitudes, and practices regarding wound care, as seen in studies like Uba *et al.* (2021) and Builders and Oseni-Momodu (2020). There is a need for longitudinal studies to assess the long-term impact of interventions, training programs, or policy changes on wound care outcomes and nurse competencies.
5. **Impact of Socioeconomic Factors on Wound Care Access:** Although studies like Damilare and RM (2024) have touched on the economic burden of wound care, there is limited research on how socioeconomic factors such as income levels, healthcare access, and insurance coverage directly impact wound care practices in Nigeria. More studies are needed to explore how socioeconomic disparities affect patient outcomes, particularly in lower-income populations.
6. **Inadequate Research on Pain Management in Wound Care:** Pain management remains a significant challenge in wound care, as evidenced by Obilor *et al.* (2021), but there is little research on the effectiveness of different pain management strategies in Nigerian

hospitals. Studies on the availability and use of analgesics, as well as non-pharmacological pain management techniques, are needed to improve patient outcomes.

7. Influence of Policy on Wound Care Practices: While studies have highlighted the need for institutional support and policies, such as Ogundeji (2017) focusing on health insurance, there is a lack of research on how national and institutional policies directly influence wound care practices. Investigating the role of policies, guidelines, and governmental support in improving wound care could help bridge the gap between clinical practice and healthcare administration.

## **2.7 Summary of Literature Review**

The literature review reveals critical insights into wound care practices among nurses in Nigeria. Studies indicate that nurses often face significant challenges, including limited resources, inadequate training, and high workloads, which adversely affect their ability to provide optimal wound care. Chronic wounds, such as diabetic foot ulcers and pressure ulcers, require specialized attention, yet many nurses lack the necessary knowledge and tools to manage them effectively. Pain management, especially during dressing changes, remains a major issue, as nurses are often not equipped with adequate strategies to alleviate wound-related pain.

Institutional factors, including resource constraints and the lack of access to wound assessment tools, further exacerbate the difficulties faced by nurses in delivering quality care. Although some policies and guidelines exist, such as the National Health Insurance Scheme (NHIS), their influence on improving wound care outcomes remains limited. Despite these findings, significant gaps remain in the literature. There is a need for more research in rural and community healthcare settings, the implementation of patient-centered care approaches, and longitudinal studies that assess the long-term impact of interventions.

Moreover, socioeconomic factors, pain management strategies, and the role of policies in shaping wound care practices require further exploration to improve healthcare outcomes in Nigeria. In summary, while progress has been made in understanding the challenges of wound care in Nigerian hospitals, substantial areas remain under-explored, providing opportunities for further research to enhance nursing practice and patient care in this crucial aspect of healthcare.

## **CHAPTER THREE**

### **METHODOLOGY**

This chapter describes the research design, population, sampling techniques, data collection methods, and the analytical techniques that was employed in assessing wound care practices and associated factors among nurses in selected tertiary hospitals in Benin City. The methodology was designed to ensure that the study objectives are met through a systematic, accurate, and reliable process.

#### **3.1 Research Design**

The study adopted a descriptive cross-sectional design. A cross-sectional design was suitable because it allowed the collection of data at a single point in time, which was appropriate for assessing the current wound care practices and the factors influencing these practices among nurses in the selected hospitals. This design facilitated the identification of patterns, relationships, and associations between variables, such as nurses' adherence to wound care protocols and influencing factors like education, experience, and resources.

#### **3.2 Study Area**

The study was conducted in Benin City, Edo State, Nigeria. The selected hospitals included the University of Benin Teaching Hospital (UBTH) and Central Hospital, Benin, two of the largest tertiary healthcare facilities in the region. These hospitals provided a wide range of medical services and were equipped to handle complex cases, making them ideal locations for studying wound care practices. UBTH is a federal government-owned institution known for its specialized care, research, and training, while Central Hospital was a state-owned facility that served a large and diverse patient population. Both hospitals managed a significant number of wound-related cases, from trauma to post-surgical wounds, making them relevant for this study.

### **3.3 Population of the Study**

The population for this study consisted of registered nurses working in the selected tertiary hospitals (UBTH and Central Hospital, Benin). The study included nurses from various units where wound care was a critical part of patient management, such as the surgical, orthopedic, oncology, COPD, and accident and emergency (A&E) departments. Both junior and senior nurses, as well as those with different levels of experience, were included to capture a comprehensive view of wound care practices. The total number of nurses employed in these hospitals was estimated to be around 600.

### **3.4 Sampling Technique**

A multistage sampling technique was used to select the sample for the study:

1. Stage One: Stratified sampling was employed to divide the nurses into strata based on their department or unit (surgical, orthopedic, A&E, etc.).
2. Stage Two: Purposeful sampling was applied within each stratum to select the nurses who participated in the study. This ensured that all departments involved in wound care were proportionately represented and that each nurse had an equal chance of being selected.

A sample size of approximately 200 nurses was determined using Taro Yamane's formula for sample size calculation, which provided an optimal sample based on the total population. This sample size was expected to be sufficient for achieving statistical power and ensuring the generalizability of the results.

### **3.5 Inclusion and Exclusion Criteria**

#### **Inclusion Criteria:**

1. Registered nurses who were directly involved in patient care and wound management.

2. Nurses working in the surgical, orthopedic, and accident and emergency (A&E) departments.
3. Nurses with at least one year of experience in their current role.

**Exclusion Criteria:**

1. Nurses who were not directly involved in wound care (e.g., administrative or managerial staff).
2. Nurses who were on leave or unavailable during the study period.

### **3.6 Data Collection Instruments**

Data for the study were collected using a structured questionnaire and an observation checklist.

1. Structured Questionnaire: The questionnaire was divided into sections to gather information on;
  - Demographic data of the respondents (age, gender, educational qualification, years of experience).
  - Current wound care practices.
  - Level of adherence to standardized wound care guidelines
  - Factors influencing wound care practices, such as resource availability, institutional policies, and training.

The questionnaire was adapted from standardized tools used in previous studies on wound care (Olowokere *et al.*, 2021), with necessary modifications to fit the local context. It underwent pre-testing to ensure validity and reliability.

2. Observation Checklist: An observation checklist was used to assess nurses' adherence to wound care protocols during their practice. The checklist focused on;
  - Hand hygiene practices before and after wound care.

- Use of aseptic techniques.
- Proper wound cleaning and dressing procedures.
- Utilization of wound care materials and equipment.

Direct observation helped validate the responses obtained from the questionnaire and provided an objective assessment of the actual practices in the hospital setting.

### **3.7 Data Collection Procedure**

Data were collected over a period of four weeks. After obtaining ethical approval from the Ethics Committee of the University of Benin Teaching Hospital, permission was also sought from the management of the selected hospitals. The questionnaires were administered to the selected nurses in person by trained research assistants. Respondents were briefed on the purpose of the study, and their participation was voluntary. Anonymity and confidentiality were assured throughout the process.

The observation checklist was completed by the research team during wound care procedures. This involved unobtrusive observation of nurses while they performed wound care in various units. The researchers ensured minimal disruption to routine hospital activities during the data collection period.

### **3.8 Validity of the Instruments**

The validity of the instruments was ensured through expert review. Subject matter experts in nursing and wound care assessed the content of the questionnaire and observation checklist to confirm that the items adequately covered the relevant areas of wound care practices and adhered to best practices in nursing. To further enhance validity, a pilot study was conducted at a hospital not included in the main study. This pilot test allowed for pre-testing of the questionnaire and checklist to identify any ambiguous or unclear questions. Based on the pilot test feedback, necessary adjustments were made to improve the clarity, relevance, and

overall validity of the instruments. This process helped ensure that the tools measured what they were intended to measure.

### **3.9 Reliability of the Instruments**

The reliability of the instruments was evaluated specifically within the context of wound care practices, focusing on the internal consistency of items related to adherence to wound care protocols. Cronbach's alpha was used to assess how well the items on the questionnaire and observation checklist consistently measured adherence levels in critical areas of wound care, such as infection prevention, dressing techniques, and pain management.

A pilot test was conducted at a hospital with similar wound care protocols to those in the main study but not included in the primary data collection. This pilot gathered preliminary responses to items on both the questionnaire and checklist, such as adherence to dressing changes, hand hygiene practices, and the use of moist wound dressings, as recommended by current guidelines. Cronbach's alpha was then calculated to evaluate the consistency of responses within these specific domains.

The calculated Cronbach's alpha value of 0.889 was deemed excellent as Cronbach's alpha value of 0.7 or higher for items related to infection prevention and dressing techniques have been reported to indicate that the items effectively measured a cohesive concept of wound care adherence.

### **3.10 Method of Data Analysis**

Quantitative data from the questionnaires were analyzed using Statistical Package for Social Sciences (SPSS) version 25. Descriptive statistics (mean, standard deviation, frequency, and percentages) were used to summarize the demographic characteristics of the respondents and describe their wound care practices.

Inferential statistics, such as Chi-square tests and logistic regression, were employed to examine the relationships between the independent variables (factors influencing wound care

practices) and the dependent variable (wound care adherence). A significance level of  $p < 0.05$  was considered statistically significant.

Data from the observation checklist were analyzed descriptively to assess the level of compliance with wound care protocols in the selected hospitals. The findings were presented in tables and charts for easy interpretation.

### **3.11 Ethical Considerations**

Ethical approval for the study was obtained from the Ethics Committee of the University of Benin Teaching Hospital (UBTH). Informed consent was sought from all participants, and they were assured of confidentiality and anonymity. Participation was voluntary, and respondents had the right to withdraw from the study at any point without any consequences. The researchers ensured that all data collected was used solely for academic purposes and was stored securely to prevent unauthorized access.

## CHAPTER FOUR

### DATA PRESENTATION, ANALYSIS, AND INTERPRETATION

#### 4.1 Introduction

This chapter presents the data collected from the questionnaires administered to nurses in tertiary hospitals in Benin City. The objective is to analyze the responses and interpret the findings in relation to the research questions and hypotheses outlined in the previous chapters. The analysis includes demographic information, current wound care practices among nurses, adherence to wound care practices, factors influencing these practices, and the relationships between nurses' characteristics (such as education level, years of experience, and resource availability) and their level of adherence.

#### 4.2 Demographic Characteristics of the Nurses in the Study Area

As shown in Table 4.1, majority of the respondents were female (71.0%, n=142), while males constituted 29.0% (n=58). This distribution suggests that the nursing profession in the selected tertiary hospitals in Benin City is predominantly female, consistent with global trends in nursing demographics. With a mean age of 33±11 years, nearly half of the respondents (49.5%, n=99) aged below 30 years, indicating a relatively young nursing workforce. Respondents aged 31–40 years accounted for 24.5% (n=49), while those aged 41–50 years and above 50 years represented 16.5% (n=33) and 9.5% (n=19), respectively. This age distribution suggests a potentially vibrant workforce but also highlights a need for succession planning as older nurses retire.

On the other hand, a significant proportion of the respondents were Registered Nurses (RN) (51.5%, n=103), followed by those with a Bachelor of Nursing Science (BNSc) degree (15.0%, n=30). Nurses with Post-Basic Specialty qualifications constituted 11.0% (n=22), while those with Master's Degrees in Nursing made up 12.5% (n=25). Registered Midwives

(RM) represented the smallest group at 10.0% (n=20). These findings highlight a range of educational qualifications, suggesting variability in clinical expertise and knowledge, which may influence wound care practices. With an average of 5±4 years of nursing experience. More than half (52.5%, n=105) had ≤5 years of experience, while 28.5% (n=57) had 6–10 years of experience. Nonetheless, a smaller proportion of respondents reported 11–15 years of experience (12.5%, n=25) and above 15 years (6.5%, n=13). The predominance of less experienced nurses indicates a need for continuous professional development, particularly in specialized areas like wound care.

Furthermore, the respondents were distributed across various units, with the highest representation in the Orthopedic Unit (26.0%, n=52) and Surgical Unit (23.5%, n=47). Other departments included the Accident and Emergency Unit (A&E) (22.5%, n=45), Oncology (14.5%, n=29), and Outpatient Department (OPD) (13.5%, n=27). This distribution is reflective of the areas where wound care practices are critical, with a significant focus on surgical and orthopedic care. However, Staff Nurses constituted the largest group (43.5%, n=87), followed by Senior Staff Nurses (28.5%, n=57). Nurse Supervisors accounted for 14.5% (n=29), while Nurse Managers represented 13.5% (n=27). The predominance of junior roles highlights an opportunity for mentorship and leadership development in wound care management.

**Table 4.1: Distribution of respondents by their demographic characteristics (n= 200)**

<b>Variables</b>	<b>Frequency</b>	<b>Percentage</b>	<b>Mean±SD</b>
<b>Gender</b>			
Male	58	29.0	
Female	142	71.0	
<b>Age</b>			
≤ 30	99	49.5	
31 – 40	49	24.5	33±11 years
41 – 50	33	16.5	
> 50	19	9.5	
<b>Educational qualification</b>			
Registered Nurse (RN)	103	51.5	
Registered Midwife (RM)	20	10.0	
Bachelor of Nursing Science (BNSc)	30	15.0	
Post-Basic Specialty	22	11.0	
Master’s Degree in Nursing	25	12.5	
<b>Years of experience</b>			
≤ 5	105	52.5	
6 – 10	57	28.5	5±4 years
11 - 15	25	12.5	
> 15	134	6.5	
<b>Department/Unit</b>			
Surgical Unit	47	23.5	
Orthopedic Unit	52	26.0	
Accident and Emergency Unit (A&E)	45	22.5	
Oncology	29	14.5	
Outpatient Department (OPD)	27	13.5	
<b>Job position</b>			
Staff Nurse	87	43.5	
Senior Staff Nurse	57	28.5	
Nurse Supervisor	29	14.5	
Nurse Manager	27	13.5	

**Source: Field survey, 2024**

### **4.3 Current Wound Care Practices Among Nurses in the Study Area**

As shown in Table 4.2, the findings on wound care practices among nurses in the selected tertiary hospitals revealed various levels of adherence to established practices. Regarding assessment and diagnosis, the classification of wounds, such as pressure ulcers by stages, was a common practice among the nurses, with 50.5% always engaging in it, 29.0% sometimes, 12.0% rarely, and 8.5% never. The mean score of 2.22 confirms this as a current practice. Similarly, wound measurement and documentation were consistently practiced, with 48.0% always, 28.5% sometimes, 11.5% rarely, and 12.0% never engaging in this activity (mean: 2.13). Additionally, tissue assessment, which involves evaluating granulation tissue, slough, and eschar, was always practiced by 49.0%, sometimes by 27.5%, rarely by 15.0%, and never by 8.5%, with a mean of 2.17.

In the area of debridement and cleansing, most nurses adhered to these practices. Surgical debridement to remove dead tissue was always practiced by 45.5%, sometimes by 31.5%, rarely by 11.5%, and never by 11.5%, yielding a mean score of 2.11. Antibacterial cleansers were the most frequently used for wound care, with 59.5% always utilizing them, 20.5% sometimes, 11.5% rarely, and 8.5% never, resulting in a mean score of 2.31. Autolytic debridement, which involves using dressings to break down necrotic tissue, was always practiced by 43.0%, sometimes by 31.5%, rarely by 13.5%, and never by 12.0% (mean: 2.06). Dressing and topical treatments were also a key component of wound care practices. Antimicrobial dressings were always applied by 55.0% of nurses, sometimes by 23.0%, rarely by 12.0%, and never by 10.0%, with a mean score of 2.23, making this a prevalent practice. Moisture-retentive dressings were always used by 30.5%, sometimes by 41.0%, rarely by 17.0%, and never by 11.5%, with a mean score of 1.91. Similarly, absorptive dressings were always utilized by 37.5%, sometimes by 33.5%, rarely by 17.5%, and never by 11.5%, with a mean score of 1.97.

For compression and offloading, compression bandages and stockings were always used by 34.5%, sometimes by 40.0%, rarely by 12.0%, and never by 13.5%, yielding a mean score of 1.96. Offloading devices, such as specialized footwear, were always used by 30.5%, sometimes by 42.5%, rarely by 16.0%, and never by 11.0% (mean: 1.93). Pressure redistribution mattresses were less commonly used, with 22.0% always, 31.0% sometimes, 31.0% rarely, and 16.0% never using them (mean: 1.59).

Finally, the use of wound management technologies was notably limited. Negative pressure wound therapy (NPWT) was rarely or never used by 57.0% of respondents, with only 19.0% always and 24.0% sometimes using it (mean: 1.44). Similarly, hyperbaric oxygen therapy (HBOT) and electrical stimulation therapy (EST) were rarely practiced, with mean scores of 1.37 and 1.36, respectively.

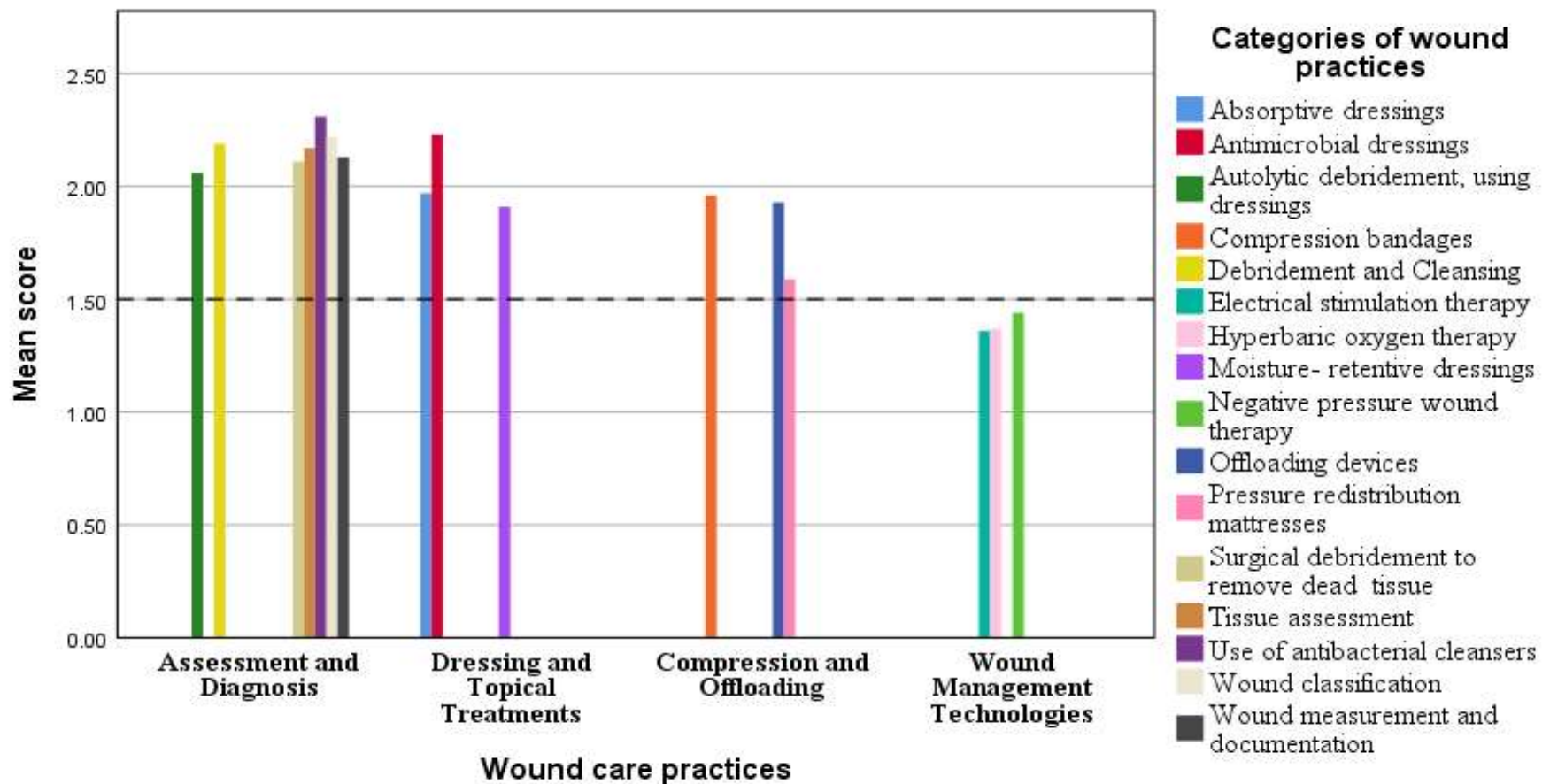
**Table 4.2: Distribution of respondents on their wound care practices (n = 200)**

Wound Practices	Extent of Practice				Mean	Remark
	A F (%)	S F (%)	R (%)	N F (%)		
<b>Assessment and Diagnosis</b>						
Wound classification (e.g., stage 1-4 pressure ulcers)	101 (50.5)	58 (29.0)	24 (12.0)	17 (8.5)	2.22	Current practice
Wound measurement and documentation	96 (48.0)	57 (28.5)	23 (11.5)	24 (12.0)	2.13	Current practice
Tissue assessment (e.g., granulation, slough, eschar)	98 (49.0)	55 (27.5)	30 (15.0)	17 (8.5)	2.17	Current practice
Debridement and Cleansing	103 (51.5)	51 (25.5)	26 (13.0)	20 (10.0)	2.19	Current practice
Surgical debridement to remove dead tissue	91 (45.5)	63 (31.5)	23 (11.5)	23 (11.5)	2.11	Current practice
Autolytic debridement, using dressings	86 (43.0)	63 (31.5)	27 (13.5)	24 (12.0)	2.06	Current practice
Use of antibacterial cleansers	119 (59.5)	41 (20.5)	23 (11.5)	17 (8.5)	2.31	Current practice
<b>Dressing and Topical Treatments</b>						
Moisture-retentive dressings	61 (30.5)	82 (41.0)	34 (17.0)	23 (11.5)	1.91	Current practice
Absorptive dressings	75 (37.5)	67 (33.5)	35 (17.5)	23 (11.5)	1.97	Current practice
Antimicrobial dressings	110 (55.0)	46 (23.0)	24 (12.0)	20 (10.0)	2.23	Current practice
<b>Compression and Offloading</b>						
Compression bandages and stockings	69 (34.5)	80 (40.0)	24 (12.0)	27 (13.5)	1.96	Current practice
Offloading devices	61 (30.5)	85 (42.5)	32 (16.0)	22 (11.0)	1.93	Current practice
Pressure redistribution mattresses	44 (22.0)	62 (31.0)	62 (31.0)	32 (16.0)	1.59	Current practice
<b>Wound Management Technologies</b>						
Negative pressure wound therapy (NPWT)	38 (19.0)	48 (24.0)	78 (39.0)	36 (18.0)	1.44	Non-Current practice
Hyperbaric oxygen therapy (HBOT)	32 (16.0)	50 (25.0)	78 (39.0)	40 (20.0)	1.37	Non-Current practice
Electrical stimulation therapy (EST)	41 (20.5)	42 (21.0)	65 (32.5)	52 (26.0)	1.36	Non-Current practice

**Source: Field survey, 2024**

*A = Always; S = Sometimes; R = Rarely; N = Never*

*Note: Figures in parenthesis are percentages*



*Fig 4.1 Mean distribution of wound care practices*

#### **4.4 Level of Adherence to Wound Care Practices Among Nurses in the Study Area**

As shown in Table 4.3, following a standardized wound care protocol was reported as a common practice among nurses, with 27.0% always adhering, 39.5% often adhering, 14.6% sometimes adhering, 10.0% rarely adhering, and 9.0% never adhering. The mean score of 2.66 indicates adherence. Similarly, assessing wounds for signs of infection was consistently performed, with 48.0% always, 28.0% often, 7.5% sometimes, 6.5% rarely, and 10.0% never, resulting in the highest mean score of 2.98.

The use of a standardized wound classification system was also adhered to, with 34.0% always, 35.0% often, 13.5% sometimes, 9.0% rarely, and 8.5% never engaging in the practice (mean: 2.77). Furthermore, the application of antibacterial cleansers was highly practiced, with 46.5% always, 29.0% often, 12.0% sometimes, 6.0% rarely, and 6.5% never using them (mean: 3.03), marking it as the most adhered-to practice.

Regarding the following of standardized wound cleansing protocols, 39.5% of nurses always adhered, 29.0% often adhered, 8.5% sometimes adhered, 9.0% rarely adhered, and 14.0% never adhered (mean: 2.71). Regularly changing wound dressings was another common practice, with 38.5% always, 30.0% often, 11.0% sometimes, 10.0% rarely, and 10.5% never practicing it (mean: 2.76).

The use of compression bandages or stockings was reported by 34.0% of respondents as always, 32.0% often, 16.0% sometimes, 8.0% rarely, and 10.0% never (mean: 2.72). Similarly, offloading devices were used by 26.0% always, 37.0% often, 15.0% sometimes, 12.0% rarely, and 10.0% never (mean: 2.57). Lastly, regular assessment of patient pain levels was highly adhered to, with 31.0% always, 42.5% often, 14.0% sometimes, 6.0% rarely, and 6.5% never engaging in this practice. The mean score of 2.86 further underscores the commitment to this aspect of wound care.

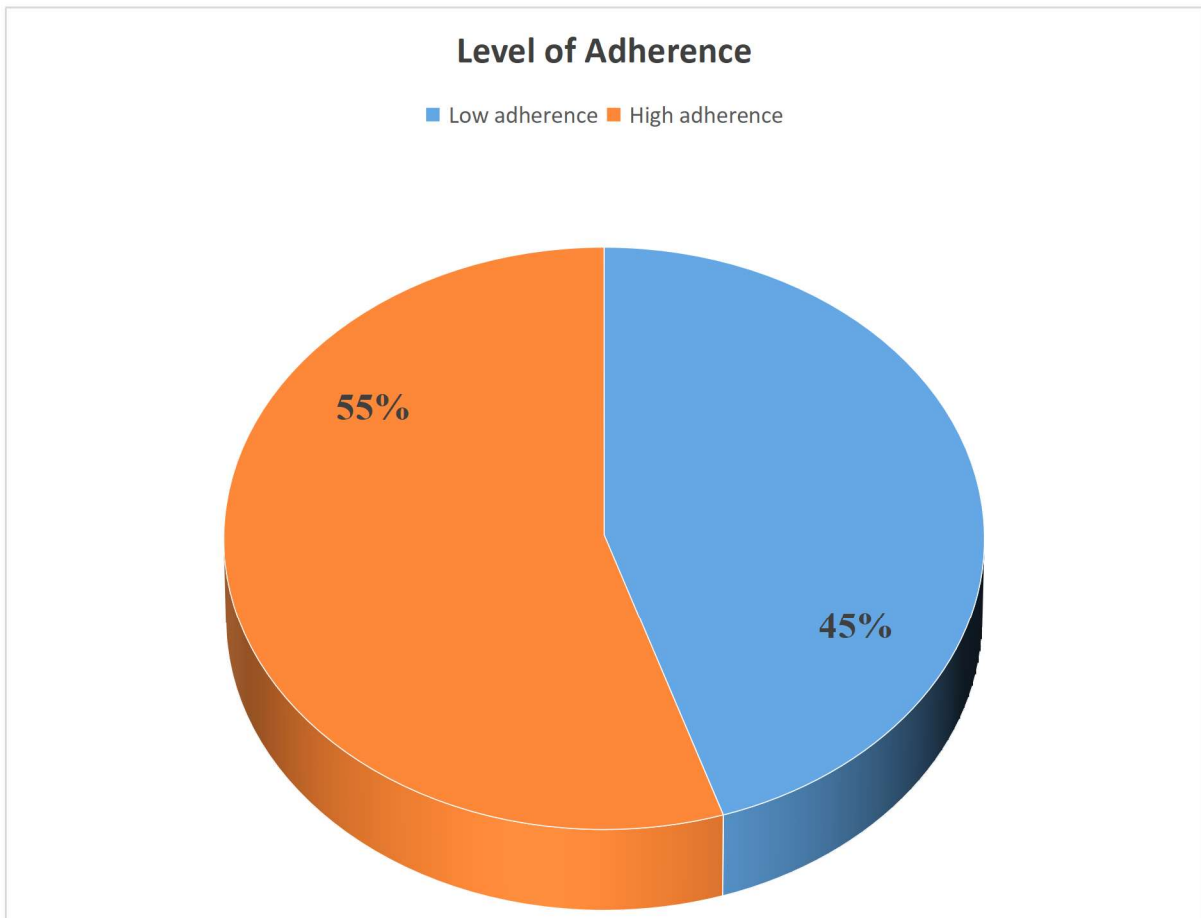
**Table 4.3: Distribution of respondents on their level of adherence to wound care practices (n = 200)**

<b>Level of adherence</b>	<b>A F (%)</b>	<b>O F (%)</b>	<b>S F (%)</b>	<b>R F (%)</b>	<b>N F (%)</b>	<b>Mean</b>	<b>Remark</b>
Follow a standardized wound care protocol in facility	54 (27.0)	79 (39.5)	29 (14.6)	20 (10.0)	18 (9.0)	2.66	Adherent
Assess wounds for signs of infection	96 (48.0)	56 (28.0)	15 (7.5)	13 (6.5)	20 (10.0)	2.98	Adherent
Use standardized wound classification system	68 (34.0)	70 (35.0)	27 (13.5)	18 (9.0)	17 (8.5)	2.77	Adherent
Use antibacterial cleansers	93 (46.5)	58 (29.0)	24 (12.0)	12 (6.0)	13 (6.5)	3.03	Adherent
Follow standardized wound cleansing protocol	79 (39.5)	58 (29.0)	17 (8.5)	18 (9.0)	28 (14.0)	2.71	Adherent
Change wound dressings often	77 (38.5)	60 (30.0)	22 (11.0)	20 (10.0)	21 (10.5)	2.76	Adherent
Use compression bandages or stockings	68 (34.0)	64 (32.0)	32 (16.0)	16 (8.0)	20 (10.0)	2.72	Adherent
Use offloading devices	52 (26.0)	74 (37.0)	30 (15.0)	24 (12.0)	20 (10.0)	2.57	Adherent
Assess patient pain levels regularly	62 (31.0)	85 (42.5)	28 (14.0)	12 (6.0)	13 (6.5)	2.86	Adherent

**Source: Field survey, 2024**

*A = Always; O = Often; S = Sometimes; R = Rarely; N = Never*

*Note: Figures in parenthesis are percentages*



***Fig 4.2 Pie chart distribution of level of adherence to wound care practices***

Fig 4.2 further revealed that majority (55%) of the nurses in selected tertiary hospital in Benin City had a high level of adherence to current wound care practices, particularly in areas involving infection control and wound assessment. compared to the minor (45%) who had low level of adherence.

#### **4.5 Factors Influencing Wound Care Practices Among Nurses in the Study Area**

As shown in Table 4.4, the study identified several factors that influence wound care practices among nurses in the study area. These factors were rated based on the respondents' agreement levels, and the results show that all the listed factors significantly influenced wound care practices.

Lack of adequate resources, such as wound care materials, was highlighted as a key factor, with 22.5% of respondents strongly agreeing, 53.5% agreeing, 11.5% disagreeing, and 12.5% strongly disagreeing (mean: 2.86). Similarly, time constraints due to workload were significant, with 38.0% strongly agreeing, 38.5% agreeing, 12.0% disagreeing, and 11.5% strongly disagreeing. This yielded the highest mean score of 3.03. Similarly, lack of adequate training or knowledge was another critical factor, with 29.5% of respondents strongly agreeing, 47.0% agreeing, 15.5% disagreeing, and 8.0% strongly disagreeing (mean: 2.98). Furthermore, institutional policies and guidelines were seen as an influential factor by 32.5% of respondents who strongly agreed, 41.5% who agreed, 15.0% who disagreed, and 11.0% who strongly disagreed (mean: 2.96).

In addition, patient cooperation or condition also played a significant role, with 30.5% strongly agreeing, 45.0% agreeing, 12.5% disagreeing, and 12.0% strongly disagreeing (mean: 2.94). Personal experience and confidence influenced practices, with 26.5% strongly agreeing, 49.0% agreeing, 8.0% disagreeing, and 16.5% strongly disagreeing (mean: 2.86). Moreover, availability of multidisciplinary support was identified as an influencing factor by 31.5% who strongly agreed, 39.5% who agreed, 13.5% who disagreed, and 15.5% who strongly disagreed (mean: 2.87). Finally, inadequate staffing was also significant, with 27.0% strongly agreeing, 48.0% agreeing, 13.5% disagreeing, and 11.5% strongly disagreeing (mean: 2.91).

**Table 4.4: Distribution of respondents on the factors influencing their wound care practices (n = 200)**

Influencing factors	SA	A	D	SD	Mean	Remark
	F (%)	F (%)	F (%)	F (%)		
Lack of adequate resources (e.g., woundcare materials)	45 (22.5)	107 (53.5)	23 (11.5)	25 (12.5)	2.86	Factor
Time constraints due to workload	76 (38.0)	77 (38.5)	24 (12.0)	23 (11.5)	3.03	Factor
Lack of adequate training or knowledge	59 (29.5)	94 (47.0)	31 (15.5)	16 (8.0)	2.98	Factor
Institutional policies and guidelines	65 (32.5)	83 (41.5)	30 (15.0)	22 (11.0)	2.96	Factor
Patient cooperation or condition	61 (30.5)	90 (45.0)	25 (12.5)	24 (12.0)	2.94	Factor
Personal experience and confidence	53 (26.5)	98 (49.0)	16 (8.0)	33 (16.5)	2.86	Factor
Availability of multidisciplinary support	63 (31.5)	79 (39.5)	27 (13.5)	31 (15.5)	2.87	Factor
Inadequate staffing	54 (27.0)	96 (48.0)	27 (13.5)	23 (11.5)	2.91	Factor

**Source: Field survey, 2024**

*SA = Strongly agree; A = Agree; D = Disagree; SD = Strongly disagree*

*Note: Figures in parenthesis are percentages*

## 4.6 Hypothesis Testing

### 4.6.1 Relationship between Nurses' Demographic Characteristics and their Level of Adherence to Optimal Wound Care Practices In Tertiary Hospitals In Benin City

Table 4.5 presents the bivariate analysis between respondents' demographic characteristics and their level of adherence to wound care practices using chi-square ( $\chi^2$ ). The results showed that respondents' gender significantly influenced adherence levels ( $\chi^2 = 11.657$ ,  $df = 1$ ,  $p = 0.001$ ). Female nurses demonstrated higher adherence (62.7%) compared to their male counterparts (36.2%). Also, age was significantly associated with adherence ( $\chi^2 = 40.329$ ,  $df = 3$ ,  $p = 0.001$ ). Younger nurses under 30 years had the highest adherence level (74.7%), while adherence decreased with increasing age, with those over 50 years showing the lowest adherence (15.8%). Likewise, a significant relationship was observed between educational qualification and adherence ( $\chi^2 = 22.531$ ,  $df = 4$ ,  $p = 0.001$ ). Nurses with only a Registered Nurse (RN) certification had the highest adherence (69.9%), whereas those with a post-basic specialty (27.3%) and a Master's degree (32.0%) showed lower adherence levels.

Furthermore, respondents' years of experience significantly impacted adherence ( $\chi^2 = 21.674$ ,  $df = 3$ ,  $p = 0.001$ ). Nurses' adherence decreased progressively with more experience, with those having over 15 years of experience showing the lowest adherence (23.1%). Similarly, the department/unit of nurses significantly influenced adherence ( $\chi^2 = 16.235$ ,  $df = 4$ ,  $p = 0.003$ ). Nurses in the Accident and Emergency (A&E) Unit had the highest adherence (68.9%), followed by those in the Surgical Unit (66.0%). The result also showed that job position significantly influenced adherence ( $\chi^2 = 10.212$ ,  $df = 3$ ,  $p = 0.017$ ). Staff nurses showed the highest adherence level (64.4%), whereas nurse managers exhibited the lowest adherence (37.0%).

**Table 4.5: Bivariate Analysis of the relationship between respondents' demographic characteristics and their level of adherence to current wound practices**

Variables	Low Adherence F (%)	High Adherence F (%)	Total	$\chi^2$ value	df	p-value	Remarks
<b>Gender</b>							
Male	37 (63.8)	21 (36.2)	58	11.657 <sup>a</sup>	1	0.001	Significant
Female	53 (37.3)	89 (62.7)	142				
<b>Age</b>							
< 30	25 (25.3)	74 (74.7)	99	40.329 <sup>a</sup>	3	0.001	Significant
30 – 40	24 (49.0)	25 (51.0)	49				
41 – 50	25 (75.8)	8 (24.2)	33				
> 50	16 (84.2)	3 (15.8)	19				
<b>Educational qualification</b>							
Registered Nurse (RN)	31 (30.1)	72 (69.9)	103	22.531 <sup>a</sup>	4	0.001	Significant
Registered Midwife (RM)	11 (55.0)	9 (45.0)	20				
Bachelor of Nursing Science (BNSc)	15 (50.0)	15 (50.0)	30				
Post-Basic Specialty	16 (72.7)	6 (27.3)	22				
Master's Degree in Nursing	17 (68.0)	8 (32.0)	25				
<b>Years of experience</b>							
≤ 5	32 (30.5)	73 (69.5)	105	21.674 <sup>a</sup>	3	0.001	Significant
6 – 10	31 (54.4)	26 (45.6)	57				
11 - 15	17 (68.0)	8 (32.0)	25				
> 15	10 (76.9)	3 (23.1)	13				
<b>Department/Unit</b>							
Surgical Unit	16 (34.0)	31 (66.0)	47	16.235 <sup>a</sup>	4	0.003	Significant
Orthopedic Unit	23 (44.2)	29 (55.8)	52				
Accident and Emergency Unit (A&E)	14 (31.1)	31 (68.9)	45				
Oncology	18 (62.1)	11 (37.9)	29				
Outpatient Department (OPD)	19 (70.4)	8 (29.6)	27				
<b>Job position</b>							
Staff Nurse	31 (35.6)	56 (64.4)	87	10.212 <sup>a</sup>	3	0.017	Significant
Senior Staff Nurse	24 (42.1)	33 (57.9)	57				
Nurse Supervisor	18 (62.1)	11 (37.9)	29				
Nurse Manager	17 (63.0)	10 (37.0)	27				

**Source: Field survey, 2024**

**Note: Figures in parenthesis are percentages**

Furthermore, Table 4.6 presents the regression analysis revealing several factors influencing nurses' adherence to current wound care practices. The constant ( $B=1.818$ ,  $p=0.038$ ) indicates that, when all other variables are held constant, the odds of adhering to wound care practices are 6.159 times higher. Gender showed a marginally significant positive relationship ( $B=0.658$ ,  $p=0.071$ ), suggesting that male nurses are approximately 1.93 times more likely to adhere to optimal wound care practices compared to their female counterparts (95% CI: 0.946–3.945). On the other hand, respondents' age demonstrated a highly significant negative relationship ( $B=-0.765$ ,  $p=0.002$ ), indicating that as nurses' age increases, their likelihood of adhering to wound care practices decreases. However, the odds ratio of 0.465 (95% CI: 0.290–0.748) implies that for every unit increase in age category, the odds of adherence decrease by 53.5%.

In addition, educational qualifications exhibited a weak negative relationship ( $B=-0.222$ ,  $p=0.066$ ), where nurses with higher qualifications are less likely to adhere to wound care practices. The odds ratio of 0.801 (95% CI: 0.632–1.015) suggests that with increasing levels of qualification, the odds of adherence reduce by 19.9%. Respondents' years of experience showed no significant relationship with adherence ( $B=-0.099$ ,  $p=0.675$ ). The odds ratio of 0.906 (95% CI: 0.571–1.437) suggests that variations in years of experience do not meaningfully impact adherence. Contrarily, department/unit had a marginally significant negative influence ( $B=-0.242$ ,  $p=0.058$ ), indicating that nurses in certain departments are less likely to adhere to wound care practices. The odds ratio of 0.785 (95% CI: 0.611–1.009) implies that changes in department/unit reduce the odds of adherence by 21.5%. Job position, however, did not show a significant relationship ( $B=-0.002$ ,  $p=0.989$ ), with an odds ratio of 0.998 (95% CI: 0.716–1.391), suggesting that adherence to wound care practices does not vary significantly across job positions.

**Table 4.6: Regression Analysis of the relationship between respondents' demographic characteristics and their level of adherence to current wound practices**

Variables	B	S.E.	Wald	df	Sig.	OR	95% C.I.	
							Lower	Upper
Constant	1.818**	0.875	4.318	1	0.038	6.159		
Gender	0.658*	0.364	3.268	1	0.071	1.932	0.946	3.945
Age	- 0.765***	0.242	10.007	1	0.002	0.465	0.290	0.748
Educational Qualifications	-0.222*	0.121	3.371	1	0.066	0.801	0.632	1.015
Experience	-0.099*	0.235	0.176	1	0.675	0.906	0.571	1.437
Department/Unit	-0.242*	0.128	3.582	1	0.058	0.785	0.611	1.009
Job Position	-0.002	0.170	0.000	1	0.989	0.998	0.716	1.391

\*\*\*, \*\*, \* denote 1%, 5% and 10% level of significance respectively

**Source: Field survey, 2024**

## **CHAPTER FIVE**

### **DISCUSSION OF FINDINGS**

#### **5.1 Introduction**

Chapter Five provides a comprehensive discussion of the study's findings on the current wound care practices among nurses, adherence to wound care practices, factors influencing these practices, and the relationships between nurses' characteristics (such as education level, years of experience, and resource availability) and their level of adherence wound care among nurses in tertiary hospitals in Benin City. This chapter will delve into the implications of these findings within the nursing field and evaluate the study's limitations, summarizing the results and drawing conclusions based on the data. Lastly, recommendations and suggestions for further research are presented to address gaps and encourage the improvement of wound care practices in healthcare settings.

#### **5.2 Discussion of Findings**

##### **5.2.1 Current Wound Care Practices Among Nurses**

Wound care is a critical aspect of nursing practice, essential for promoting healing, preventing complications, and ensuring optimal patient outcomes. Effective wound management encompasses comprehensive assessment, accurate documentation, appropriate debridement and cleansing, suitable dressing selection, and the utilization of advanced wound care technologies (Adejumo, 2020). However, the findings from the selected tertiary hospitals suggest variability in adherence to these practices, reflecting gaps in knowledge, training, and resources. The consistent practice of wound classification, including staging pressure ulcers, aligns with the emphasis on comprehensive assessment. However, gaps remain, as highlighted by Oseni and Adejumo (2014), who reported that while a significant proportion

of nurses are familiar with wound assessment methods, fewer could accurately apply specific tools. This underscores the need for targeted training to bridge knowledge gaps and enhance the application of standardized assessment techniques.

Furthermore, practices such as surgical debridement and the use of antibacterial cleansers are crucial for reducing infection risks and promoting tissue regeneration. Yet, the variability in adherence to debridement techniques, including autolytic debridement, points to the necessity for standardized protocols. These findings align with existing literature, which emphasizes the role of consistent training and institutional support in improving the uniformity of wound care practices (Obilor *et al.*, 2021). Moreover, the preference for antimicrobial dressings over moisture-retentive and absorptive options may reflect disparities in knowledge or material availability. This trend aligns with Ding *et al.* (2016), who identified deficiencies in nurses' competence and attitudes toward wound care. However, the limited use of compression bandages, offloading devices, and pressure redistribution mattresses reveals barriers related to resource availability and training. Adequate institutional support, alongside comprehensive training on the benefits and applications of these interventions, is essential for improving their adoption in clinical settings.

In addition, the underutilization of technologies such as Negative Pressure Wound Therapy (NPWT), hyperbaric oxygen therapy (HBOT), and electrical stimulation therapy (EST) highlights systemic challenges. Rafiei *et al.* (2021) emphasizes that prior training and wound care certification significantly influence nurses' competence in utilizing advanced technologies, underscoring the critical role of continuous professional development.

### 5.2.2 Level of Adherence to Wound Care Practices Among Nurses

The practice of classifying wounds, such as pressure ulcers by stages, was prevalent among the nurses. This suggests a moderate level of adherence to wound assessment protocols. However, a study by Obilor *et al.* (2021) in Nigeria reported that many nurses lacked competence in wound assessment and demonstrated deficiencies in their knowledge and attitude, indicating a gap in practice. This discrepancy highlights the need for continuous education and training to enhance nurses' competence in wound assessment (Meaume *et al.*, 2004). Similarly, surgical debridement and the use of antibacterial cleansers were common practices among the nurses, which are crucial for preventing infection and promoting healing. Albeit, barriers such as inadequate training and lack of resources that hinder the implementation of aseptic techniques among nurses, have been identified in previous studies (Bethell, 2003; Olowokere *et al.*, 2021).

In addition, the application of antimicrobial dressings was a common practice, aligning with evidence-based practices aimed at reducing infection rates.□ Nonetheless, the use of moisture-retentive and absorptive dressings was less consistent. A study by Akhiwu *et al.* (2021), found that nurses' wound-care knowledge and practice were low, influenced by factors such as education, training, patient load, and experience. Moreover, the use of compression bandages or stockings and offloading devices are essential in managing conditions like venous ulcers and pressure injuries. A study reported deficiencies in nurses' knowledge and practice of wound assessment and documentation, emphasizing the need for continuing professional development (Oseni *et al.*, 2019).□

### 5.2.3 Factors Influencing Wound Care Practices Among Nurses

Effective wound care is a cornerstone of nursing practice, directly impacting patient recovery and minimizing complications. However, nurses' adherence to established wound care protocols is crucial for optimal patient outcomes and are often influenced by resource availability, time constraints, training, institutional policies, patient cooperation, personal experience, multidisciplinary support, and staffing levels. A significant factor identified was the lack of adequate resources, such as wound care materials. This aligns with Oseni and Adejumo (2014), which reported that education and training were factors for knowledge. Time constraints due to workload were also highlighted as a significant factor. This is consistent with research indicating that patient load, training, and work experience are predictors of wound care practices. Lack of adequate training or knowledge was also critical factor as reported by Abosede (2024), which implies that identifying education and information as primary factors influencing nurses' wound care can provide strategies to influence decision-making in this area. □

Furthermore, institutional policies and guidelines were seen as influential factors. This aligns with Alemayehu *et al.* (2022), which reported that education and training were factors for knowledge. Moreover, patient cooperation or condition are also primary influences on nurses' wound care decision-making (Oseni *et al.*, 2019). Nonetheless, personal experience and confidence influenced these practices with inadequate staffing also been significant. This suggests that competence, social support, and self-motivation influence nurses' self-efficacy in wound care, indicating that patient load, training, and work experience are predictors of wound care practices (Oyelere, 2024).

#### 5.2.4 Hypothesis Testing

The analysis of the relationship between nurses' demographic characteristics and their adherence to optimal wound care practices in tertiary hospitals in Benin City revealed several significant associations. □ Gender appears to play a role, with female nurses demonstrating higher adherence levels compared to their male counterparts. This finding aligns with studies suggesting that female nurses often exhibit greater compliance with clinical guidelines, potentially due to differences in training experiences or professional socialization (Obilor *et al.*, 2021). □ Age is another influential factor; younger nurses under 30 years show higher adherence levels, with adherence decreasing as age increases. This trend may be attributed to recent graduates being more familiar with current best practices and protocols, having been more recently exposed to updated educational curricula. □ Educational qualifications also impacted adherence (Rafiei *et al.*, 2021). This counterintuitive finding could suggest that specialized education may not always translate into better adherence to general wound care practices, possibly due to a focus on niche areas at the expense of general protocols (Obilor *et al.*, 2021).

Furthermore, the respondents' job position, department or unit of practice influences adherence, with staff nurses showing higher adherence levels compared to nurse managers. This may be because staff nurses are more directly involved in patient care, while nurse managers have broader administrative responsibilities that might limit their direct engagement with clinical practices (Oseni and Adejumo, 2024). □ Hence, the alternate hypothesis that demographic characteristics influence nurses' adherence to optimal wound care practices is supported by the findings. □

### 5.3 Summary of the Study

In summary, majority (71.0%) of the respondents were female, with a mean age of 33 years. Significant representation came from registered nurse qualifications (51.5%) and a notable proportion had less than five years of experience (52.5%), indicating a relatively young and less experienced workforce. Findings showed varied levels of adherence to established wound care practices. Most nurses consistently performed essential procedures such as wound classification ( $\bar{x} = 2.22$ ), tissue assessment ( $\bar{x} = 2.17$ ), and wound measurement ( $\bar{x} = 2.13$ ). However, advanced techniques like negative pressure wound therapy ( $\bar{x} = 1.44$ ) and hyperbaric oxygen ( $\bar{x} = 1.37$ ) therapy were rarely employed. A majority (55%) displayed a high level of adherence to wound care protocols, particularly in infection control and wound assessment, while 45% exhibited lower adherence levels. Factors influencing wound care practices included lack of resources ( $\bar{x} = 2.86$ ), time constraints ( $\bar{x} = 3.03$ ), inadequate training ( $\bar{x} = 2.98$ ), institutional policies ( $\bar{x} = 2.96$ ), patient cooperation ( $\bar{x} = 2.94$ ), personal experience ( $\bar{x} = 2.86$ ), multidisciplinary support ( $\bar{x} = 2.87$ ), and insufficient staffing ( $\bar{x} = 2.91$ ). These factors significantly affected adherence rates, revealing a need for addressing resource allocation and training opportunities.

In addition, hypothesis testing indicated significant relationships between demographic variables (gender, age, educational qualification, years of experience, and department/unit) and adherence levels. Females (62.7%) and younger nurses (74.7%) demonstrated higher adherence, while more experienced nurses (23.1%) tended to have lower adherence levels. The analysis suggested that adherence was negatively impacted by increased age and that certain departments had less adherence compared to others.

## 5.4 Conclusion of the Study

In conclusion, the assessment of wound care practices among nurses in tertiary hospitals in Benin City highlights both strengths and areas for improvement. While many nurses adhered to fundamental wound care practices, there were gaps in the utilization of advanced clinical techniques. Similarly, the factors affecting these practices revealed systemic challenges such as resource limitations and the need for enhanced training programs. Nonetheless, it is essential to develop and implement strategies that enhance resource availability, provide comprehensive training for nurses, and establish robust institutional policies that support effective wound management practices.

## 5.5 Recommendations

Based on the findings of this study, the following were recommended;

**1. Need for Continuous Training and Education:** The variability observed in wound care practices underscores the importance of continuous professional development. By providing regular wound care training and workshops, healthcare facilities can ensure that nursing staff remain up-to-date with best practices and are equipped to manage complex wounds effectively. This could bridge the knowledge gap observed in this study, leading to improved adherence to protocols and standardized care.

**2. Resource Allocation and Policy Adjustments:** Findings from this study indicate that resource availability is a major factor influencing wound care practices. Therefore, healthcare administrators should prioritize the allocation of adequate resources, including advanced wound care supplies and assessment tools, to enable nurses to deliver optimal care. Addressing resource limitations could reduce the variability in practice, allowing for more consistent wound care standards across the board.

**3. Workload Management:** To address time constraints and high patient load, institutions might consider adjustments in staffing or workflow to ensure that nurses have adequate time for comprehensive wound assessments and follow-up care. Implementing strategies for effective workload management may alleviate time pressures, allowing nurses to adhere more closely to established wound care protocols.

**4. Promoting Positive Attitudes Toward Protocols:** The study's findings highlight that nurse attitudes toward wound care protocols influence adherence levels. Nursing leadership should reinforce the importance of each protocol component, emphasizing the positive impact of comprehensive wound care on patient recovery. By fostering an environment that values protocol adherence, healthcare facilities can help nurses understand the significance of standardized practices, leading to more consistent care.

**5. Supportive Work Environment:** Creating an environment that values patient-centered care and encourages adherence to wound care protocols is essential. Leadership can support this by recognizing nurses who demonstrate excellence in wound care and providing platforms for peer sharing of best practices.

**6. Future Research:** Future research could explore the impact of targeted interventions on improving adherence to wound care practices, as well as assess patient outcomes in relation to the quality of care provided by nursing staff.

## REFERENCES

- Abosedo, O. O. (2024). Aseptic Technique in Wound Dressing: Nurses Approach in Nigeria. *International Journal of Nursing*, 12(2), 45-56. □
- Adejumo, P. O. (2020). Nurses' reported practice and knowledge of wound assessment, assessment tools and documentation in a selected hospital in Lagos, Nigeria. *African journal of medicine and medical sciences*, 43(2), 149-159.
- Akhiwu, W. O., Aiyekomogbon, J. O., and Ikubor, J. E. (2021). Knowledge and practices of wound care among nurses in Southwestern Nigeria. *Nigerian Journal of Clinical Practice*, 24(2), 275-280.
- Alemayehu, M., Teshome, T., and Abebe, E. (2022). Knowledge and Practice of Wound Care and Associated Factors among Nurses in Ethiopia: A Cross-Sectional Study. *Chronic Wound Care Management and Research*, 9, 1-10.
- Anumah FO, Mshelia-Reng R, Abubakar R, Sough T, Asudo F, Jamda MA et al. (2021) Management outcome of diabetic foot ulcers in a teaching hospital in Abuja, Nigeria. *The Journal of Diabetic Foot Complications*. 9(1):3; 15 - 20
- Aregbesola B.S. (2017). Enhancing Political Will for Universal Health Coverage in Nigeria. *MEDICC Review*. 19(1): 42-46
- Awoke N, Tekalign T, Arba A (2022). Pressure injury prevention practice and associated factors among nurses at Wolaita Sodo University Teaching and Referral Hospital, South Ethiopia: a cross-sectional study. *BMJ Open*.12:e047687.
- Bethell E. (2003). Why gauze dressing should not be the first choice to manage most acute surgical cavity wounds. *J Wound Care*, 12: 237–9. 20.
- Bethell, E. (2003). Why gauze dressing should not be the first choice to manage most acute surgical cavity wounds. *Journal of Wound Care*, 12, 237-239.

- Bhangu A. (2016). Mortality of emergency abdominal surgery in high-, middle- and low-income countries. *J Br Surg.* 103(8):971-88.
- Builders MI and Oseni-Momodu E (2020). A Survey of Wound Care in a Surgical Department in an Urban Clinical Setting in Northern Part of Nigeria. *International Journal of Clinical Oral and Maxillofacial Surgery.* 4(1):11-18. Doi: 10.11648/j.ijcoms.20180401.13
- Damilare, O. K., and RM, R. (2024). Socio-Demographic Correlates of Inpatients Cost of Wound Dressing per Acute Care Episode. *International Journal of Caring Sciences,* 17(2), 1001.
- Danmusa UM. Terhile L. Nasir IA. Ahmed AA. Muhammed HY (2016). Prevalence and healthcare costs associated with the management of diabetic foot ulcer in patients attending Ahmadu Bello University Teaching Hospital, Nigeria. *International Journal of Health Sciences.* 10(2): 219-228.
- Dilie A, and Mengistu D. (2015). Assessment of nurses' knowledge, attitude, and perceived barriers to expressed pressure ulcer prevention practice in Addis Ababa Government Hospitals, Addis Ababa, Ethiopia. *Adv Nurs 2015;*2015:1–11
- Ding, S., Lin, F., and Gillespie, B. M. (2016). Surgical wound assessment and documentation of nurses: an integrative review. *Journal of Wound Care,* 25(5), 232-240.
- Doughty D. (2006). Strategies for minimizing chronic wound pain. *Adv Skin Wound Care* 2006;19:82– 5
- El Enein, N. Y. A., and Zaghoul, A. A. (2011). Nurses' knowledge of prevention and management of pressure ulcers at a health insurance hospital in Alexandria. *International Journal of Nursing Practice,* 17(262-268), 262-268.
- Getaneh D, Biftu G, and Bezatu M. (2019). Surgical Site Infection Prevention Practices and

- Associated Factors among Nurses Working in Government Hospitals of Harari Regional State and Dire Dawa City Administration, Eastern Ethiopia. *TMR Integrative Nursing*, 3(6): 214-225. doi: 10.12032/TMRIN20191209.
- Getie A, Baylie A, and Bante A (2020). Pressure ulcer prevention practices and associated factors among nurses in public hospitals of Harari regional state and dire Dawa City administration, eastern Ethiopia. *PLoS One* 15:e0243875.
- Gould D. (2012). Causes, prevention and management of surgical site infection. *Nurs Stand*. 26(47):47-56. <https://doi.org/10.7748/ns.26.47.47.s513>.
- Harris, C., Kuhnke, J., and Haley, J. (2019). Best practice recommendations for the prevention and management of surgical wound complications. *Foundations of Best Practice for Skin and Wound Management. Wound Care Canada*.
- Hollinworth, H. (2005). The management of patients' pain in wound care. *Nursing Standard*, 20(65), 65-73.
- Ilesanmi, R. E., Ofi, B. A., and Adejumo, P. O. (2022). Nurses' knowledge of pressure ulcer prevention in Ogun State, Nigeria: Results of a pilot survey. *Ostomy Wound Management*, 58(24), 24-32.
- Kaddourah, B., Abu-Shaheen, A. K., and Al-Tannir, M. (2016). Knowledge and attitudes of health professionals towards pressure ulcers at a rehabilitation hospital: *A cross-sectional study. BMC Nursing*, 15(17), 17.
- Kyaw, B. M., Järbrink, K., Martinengo, L., Car, J., Harding, K., and Schmidtchen, A. (2018). Need for improved definition of "chronic wounds" in clinical studies. *Acta Dermato-Venereologica*, 98, 157-158.
- Mahé, E., Langlois, G., Baron, G., Girard, L., Macrez, A., Fargeot, C., and Crickx, B. (2022). Results of a comprehensive hospital-based wound survey. *Journal of Wound Care*,

15(381-384), 381-384.

Meaume, S., Teot, L., Lazareth, I., Martini, J., and Bohbot, S. (2004). The importance of pain reduction through dressing selection in routine wound management: The MAPP study. *Journal of Wound Care*, 13, 409-413.

Mersal, F. A. (2014). Caregivers' knowledge and practice regarding prevention of immobilization complications in El-Demerdash Hospital, Cairo Egypt. *American Journal of Research Communication*, 2(78-98), 78-98.

Michael, G. C. (2022). Predictors of satisfaction with wound care services in an outpatient setting in Kano, Nigeria. *West African Journal of Medicine*, 39(8), 800-807.

Molan, P. C. (2001). Honey as a topical antibacterial agent for treatment of infected wounds. *World Wide Wounds*.

<http://www.worldwidewounds.com/2001/november/Molan/honey-as-topical-agent.html>

Mwebaza, I., Katende, G., Groves, S., and Nankumbi, J. (2014). Nurses' knowledge, practices, and barriers in care of patients with pressure ulcers in a Ugandan teaching hospital. *Nursing Research and Practice*, 2014, 1-6.

Obilor, H. N., Adejumo, P. O., and Ilesanmi, R. E. (2021). Assessment of patients' wound-related pain experiences in University College Hospital, Ibadan, Nigeria. *International Wound Journal*, 13(6), 697-704.

Obilor, H., and Adejumo, P. (2021). A survey of nurses' wound assessment knowledge, attitude and competence in Nigeria. *Wound Practice and Research*, 29(3). □

Ofoegbu, B. N., and Onwudiegwu, U. (2020). Impact of nurse training and supervision on wound care outcomes in Nigerian hospitals. *African Journal of Nursing and Health Sciences*, 19(1), 45-51.

- Ogundeji K.D, Akinyemi K.F, Adeyemo A, Oluwaleke A.K, Ilesanmi R.E (2018). Economic burden of wound care among patients in a Nigerian teaching hospital: Implications for Insurance Coverage in Nigeria; *African Journal of Nursing and Health Issues*. 9(2):139-154
- Ogundeji KD. (2017). achieving universal health coverage through NHIS Voluntary Contributors Social Health Insurance Programme (VCSHIP): Implication for nursing education and practice. *Galore International Journal of Health Sciences and Research*. 2(4): 14-18
- Olowokere, A. E., Ogundele, O. A., and Dairo, M. D. (2021). Factors influencing adherence to wound care protocols among nurses in tertiary hospitals in Southwestern Nigeria. *International Journal of Nursing Studies*, 58, 82-88.
- Oseni, I. A., Nwankwo, O. N., and Yusuf, O. M. (2019). The role of resource availability in wound care management in Nigerian tertiary hospitals. *West African Journal of Medicine*, 36(4), 267-273.
- Oseni, O. M., and Adejumo, P. O. (2014). Nurses' reported practice and knowledge of wound assessment, assessment tools and documentation in a selected hospital in Lagos, Nigeria. *African Journal of Medical and Medical Sciences*, 43(2), 149-157.
- Oyelere, A. O. (2024). Aseptic Technique in Wound Dressing: Nurses Approach in Nigeria. *ResearchGate*.
- Price PE, Fagervik-Morton H, Mudge EJ, Beele H, Ruiz JC, Nyström TH, Lindholm C, Maume S, Melby-Østergaard B, Peter Y, Romanelli M, Seppänen S, Serena TE, Sibbald G, Soriano JV, White W, Wollina U, Woo KY, WyndhamWhite C, and Harding KG. (2008). Dressing-related pain in patients with chronic wounds: an international patient perspective. *Int Wound J*;5:159–171
- Rafiei, H., Nouhi, E., Sabzevari, S., and Dehghan, M. (2021). A systematic review of nurses'

knowledge and related factors toward pressure injury prevention. *International Wound Journal*, 18(3), 261-273.

Raheem TY, Adewale B, Adeneye AK, Musa AZ, Ezeugwu SMC, and Yisau J. (2019) State of health facilities in communities designated for community-based health insurance scheme in Nigeria: A case of Kwara and Ogun state. *International Journal of Tropical disease and Health*. 36(1): 1-10.

Uba MN, Alih FI, and Kever RT. (2023). Knowledge, attitude and practice of nurses toward pressure ulcer prevention in University of Maiduguri teaching Hospital, Borno state, north-eastern, Nigeria. *Int J Nurs Midwifery* 2023;7:54–60.

**APPENDIX**  
**QUESTIONNAIRE**  
**DEPARTMENT OF NURSING SCIENCES,**  
**SCHOOL OF BASIC MEDICAL SCIENCES,**  
**UNIVERSITY OF BENIN,**  
**BENIN CITY, EDO STATE**

Dear respondent,

I am a 5001 student of the department of nursing in the above-named institution. I am carrying out a research study on wound care practices and the factors influencing these practices among nurses in tertiary hospitals. Please be assured that all responses will be treated with the highest level of confidentiality and will be used for academic purposes only.

Please kindly assist me by indicating your opinion where necessary.

Yours faithfully,

Please answer all questions by ticking (✓) the option

**SECTION A: DEMOGRAPHIC INFORMATION**

1. Gender: Male ( ) Female ( )
2. Age: ..... (years)
3. Educational Qualifications: Registered Nurse (RN) ( ) Registered Midwife (RM) ( )  
Bachelor of Nursing Science (BNSc) ( ) Post Basic Specialty ( ) Master's Degree in  
Nursing ( ) Other (Specify).....
4. Years of experience in Nursing: .....
5. Department/Unit: Surgical Unit ( ) Orthopedic Unit ( ) Accident and Emergency Unit  
(A&E) ( ) Oncology ( ) Outpatient Department (OPD) ( ) Other  
(Specify).....
6. Job Position: Staff Nurse ( ) Senior Staff Nurse ( ) Nurse Supervisor ( ) Nurse Manager  
( ) Other (Specify).....

## SECTION B: CURRENT WOUND CARE PRACTICES

Please rate your level of current wound practices.

Wound Practices	Always	Sometimes	Rarely	Never
<b>Assessment and Diagnosis</b>				
Wound classification (e.g., stage 1-4 pressure ulcers)				
Wound measurement and documentation				
Tissue assessment (e.g., granulation, slough, eschar)				
<b>Debridement and Cleansing</b>				
Surgical debridement to remove dead tissue				
Autolytic debridement, using dressings				
Use of antibacterial cleansers				
<b>Dressing and Topical Treatments</b>				
Moisture-retentive dressings				
Absorptive dressings				
Antimicrobial dressings				
<b>Compression and Offloading</b>				
Compression bandages and stockings				
Offloading devices				
Pressure redistribution mattresses				
<b>Wound Management Technologies</b>				
Negative pressure wound therapy (NPWT)				
Hyperbaric oxygen therapy (HBOT)				
Electrical stimulation therapy (EST)				

**SECTION C: ADHERENCE TO WOUND CARE PRACTICES`**

Please rate your level of adherence to wound care practices

Level of adherence	Always	Often	Sometimes	Rarely	Never
Follow a standardized wound care protocol in facility					
Assess woundsfor signs of infection					
Use standardizedwound classification system					
Use antibacterial cleansers					
Follow standardizedwound cleansing protocol					
Change wounddressings often					
Use compression bandages or stockings					
Use offloading devices					
Assess patientpain levels regularly					

**SECTION D: FACTORS INFLUENCING WOUND CARE PRACTICES AMONG NURSES**

Please rate your level of agreement with the following statements regarding your clinical experience.

Influencing Factors	Strongly agree	Agree	Strongly disagree	Disagree
Lack of adequate resources (e.g., woundcare materials)				
Time constraints due to workload				
Lack of adequate training or knowledge				
Institutional policiesand guidelines				
Patient cooperationor condition				
Personal experienceand confidence				
Availability of multidisciplinary support				
Inadequate staffing				

THANK YOU.

## RELIABILITY OF INSTRUMENT

### Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.899	0.898	33

### Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Wound classification (e.g., stage 1-4 pressure ulcers)	77.14	280.211	.439	.878	.896
Wound measurement and documentation	77.23	276.248	.523	.819	.895
Tissue assessment (e.g., granulation, slough, eschar)	77.19	275.569	.577	.762	.894
Debridement and Cleansing	77.17	276.916	.517	.852	.895
Surgical debridement to remove dead tissue	77.25	278.377	.470	.846	.896
Autolytic debridement, using dressings	77.30	280.141	.411	.720	.897
Use of antibacterial cleansers	77.05	277.229	.524	.896	.895
Moisture- retentive dressings	77.45	277.947	.509	.877	.895
Absorptive dressings	77.39	276.399	.533	.761	.895
Antimicrobial dressings	77.13	275.195	.568	.931	.894
Compression bandages	77.40	278.533	.469	.804	.896
Offloading devices	77.43	282.548	.370	.681	.897
Pressure redistribution mattresses	77.77	283.487	.319	.830	.898
Negative pressure wound therapy (NPWT)	77.92	288.621	.167	.703	.900
Hyperbaric oxygen therapy (HBOT)	77.99	290.558	.112	.907	.901
Electrical stimulation therapy (EST)	78.00	289.231	.133	.849	.901

Follow a standardized wound care protocol in facility	76.70	272.312	.528	.818	.895
Assess wounds for signs of infection	76.38	271.031	.521	.801	.895
Use standardized wound classification system	76.59	271.410	.543	.841	.894
Use antibacterial cleansers	76.33	273.778	.510	.732	.895
Follow standardized wound cleansing protocol	76.65	267.316	.557	.465	.894
Change wound dressings often	76.60	268.644	.566	.848	.894
Use compression bandages or stockings	76.64	270.303	.552	.790	.894
Use offloading devices	76.79	270.411	.556	.839	.894
Assess patient pain levels regularly	76.50	276.402	.472	.720	.896
Lack of adequate resources (e.g., wound care materials)	76.50	284.111	.337	.326	.898
Time constraints due to workload	76.33	280.723	.413	.398	.897
Lack of adequate training or knowledge	76.38	284.708	.330	.417	.898
Institutional policies and guidelines	76.40	282.432	.370	.719	.897
Patient cooperation or condition	76.42	279.440	.467	.486	.896
Personal experience and confidence	76.50	281.226	.391	.327	.897
Availability of multidisciplinary support	76.49	287.839	.182	.342	.900
Inadequate staffing	76.45	281.766	.406	.713	.897

**Comment:** The reliability analysis using Cronbach's Alpha, yielding a result of 0.899, for the overall scale. Additionally, the Cronbach's Alpha of 0.898 when the items are standardized suggest a good level of internal consistency among the items in this scale.