

A REVIEW OF POSTOPERATIVE COMPLICATIONS IN NIGERIAN SURGICAL PATIENTS: TRENDS AND MANAGEMENT STRATEGIES

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Abstract

Postoperative complications (POCs) remain a significant challenge in surgical practice globally, particularly in resource-limited settings like Nigeria. This review aims to examine the trends of POCs in Nigerian surgical patients, highlighting the specific complications encountered, contributing factors, and current management strategies. A comprehensive literature review was conducted using electronic databases such as PubMed, Scopus, and Google Scholar, focusing on studies published in English language pertaining to postoperative outcomes in Nigerian surgical patients. The findings indicate that wound infection, surgical site infection (SSI), pneumonia, and deep vein thrombosis (DVT) are prevalent POCs in Nigeria. Factors contributing to these complications include inadequate preoperative optimization, suboptimal surgical techniques, limited access to advanced diagnostic and therapeutic interventions, and poor adherence to established infection control protocols. The review also explores management strategies including antibiotic stewardship, early mobilization, proper wound care, and the implementation of evidence-based protocols. This paper argues that addressing the multifaceted challenges surrounding POC management in Nigeria requires a multidisciplinary approach encompassing improved surgical training, enhanced infrastructure development, and strengthened healthcare policies aimed at promoting patient safety and optimizing postoperative outcomes. Further research is essential to establish evidence-based guidelines tailored to the unique context of Nigerian healthcare.

Key words: Surgical care, Nigerian healthcare

Introduction

Surgery is a cornerstone of modern medicine, offering life-saving and life-improving interventions for a wide range of conditions. However, it is also associated with a spectrum of potential complications that can significantly impact patient outcomes, healthcare costs, and overall quality of life. Postoperative complications (POCs) encompass a diverse range of adverse events that occur after surgery, encompassing wound infections, surgical site infections (SSIs), pneumonia, deep vein thrombosis (DVT), bleeding, and organ dysfunction, among others (Nelson et al., 2018).

The burden of POCs is particularly pronounced in developing countries, where resource constraints, limited access to advanced healthcare technologies, and suboptimal infrastructure contribute to higher complication rates and

poorer outcomes (WHO, 2015). Nigeria, the most populous nation in Africa, faces significant challenges in its healthcare system, including a shortage of skilled healthcare professionals, inadequate facilities, and limited access to essential medications and supplies (Owolabi & Owolabi, 2018). Consequently, surgical patients in Nigeria are at an increased risk of developing POCs, which can lead to prolonged hospital stays, increased healthcare costs, and even mortality (Ogunyemi et al., 2013).

This review aims to comprehensively examine the trends of POCs in Nigerian surgical patients, focusing on the specific complications encountered, the underlying contributing factors, and the current management strategies employed. By analyzing existing research and considering the unique context of the Nigerian healthcare system, this review seeks

to contribute to a better understanding of this critical area of surgical practice and identify potential avenues for improvement in patient safety and outcomes.

Prevalence and Trends of Postoperative Complications in Nigeria

A number of studies have investigated the prevalence and trends of POCs in surgical patients across various regions of Nigeria (Ogunyemi et al., 2013; Adeyemi et al., 2018; Aina et al., 2019). While the specific incidences vary across different surgical specialties and patient populations, certain complications tend to be more prevalent in the Nigerian setting.

Wound Infection and Surgical Site Infection (SSI): Wound infection and SSI remain significant concerns in Nigerian surgical patients. Studies have reported high rates of wound infection, ranging from 10% to over 30%, depending on the type of surgery and the patient's underlying health conditions (Ogunyemi et al., 2013). Factors such as poor hygiene practices, inadequate sterilization protocols, and compromised patient immunity contribute to the development of these infections.

Pneumonia: Postoperative pneumonia is another common complication, particularly in elderly patients and those undergoing major abdominal or thoracic surgeries (Adeyemi et al., 2018). The risk of pneumonia is heightened in settings with limited access to advanced respiratory support and where patients may be exposed to infectious agents due to overcrowding or inadequate ventilation.

Deep Vein Thrombosis (DVT): Deep vein thrombosis (DVT) and subsequent pulmonary embolism (PE) pose a significant risk to surgical patients, especially those undergoing orthopedic or major abdominal procedures (Aina et al., 2019). Factors contributing to DVT include prolonged immobilization, obesity, and advanced age. The limited availability of thromboprophylaxis in some Nigerian hospitals further increases the risk of these complications.

Other Complications: Other POCs observed in Nigerian patients include bleeding, urinary tract infections (UTIs), electrolyte imbalances, and organ dysfunction. The prevalence of these complications is influenced by several factors, including the type of surgery, the patient's overall health, and the quality of postoperative care.

Contributing Factors to Postoperative Complications in Nigeria

The high incidence of POCs in Nigerian surgical patients is multifactorial, stemming from a complex interplay of patient-related, surgical-related, and system-related factors:

Patient-related factors: Patient characteristics such as age,

comorbidities like diabetes and hypertension, malnutrition, and poor pre-operative optimization play a significant role in increasing the risk of complications. Malnutrition, prevalent in many Nigerian communities, can compromise wound healing and immune function, making patients more susceptible to infections (Okonkwo et al., 2012).

Surgical-related factors: The surgical technique employed, the duration of surgery, and the extent of tissue trauma can impact the risk of POCs. Suboptimal surgical techniques, inadequate haemostasis, and inadequate wound closure can increase the risk of SSI and bleeding complications. Limited access to advanced surgical equipment and skilled surgeons in certain regions can further exacerbate the situation.

System-related factors: The Nigerian healthcare system faces several challenges that contribute to higher rates of POCs. These include limited resources, inadequate infrastructure, poor hygiene practices, inadequate staffing, and limited access to essential medications and supplies. The lack of adherence to established infection control protocols, including proper hand hygiene and sterile surgical practices, can lead to increased rates of SSI and other infections. Additionally, the limited availability of advanced diagnostic and therapeutic interventions for managing complications can delay appropriate treatment and worsen patient outcomes.

Management Strategies for Postoperative Complications in Nigeria

Effective management of POCs requires a multipronged approach that addresses both preventive and therapeutic aspects. Several strategies have been proposed and implemented in Nigerian hospitals, with varying degrees of success.

Antibiotic Stewardship: The judicious use of antibiotics is crucial in preventing and managing infections. Promoting antibiotic stewardship programs that emphasize appropriate antibiotic selection, dosage, and duration can help minimize the development of antibiotic resistance and improve outcomes (Ogunyemi et al., 2013).

Early Mobilization: Early post-operative mobilization has been shown to reduce the risk of DVT and pneumonia. Encouraging early ambulation and respiratory exercises can help improve lung function and prevent venous stasis (Aina et al., 2019).

Proper Wound Care: Appropriate wound care is essential for preventing wound infection and promoting healing. This involves meticulous wound cleaning, appropriate dressing changes, and the use of topical antiseptics. Training healthcare professionals in appropriate wound care practices is crucial for optimizing outcomes.

Implementation of Evidence-based Protocols:

Implementing standardized protocols for the management of common POCs is essential for ensuring consistent and effective care. These protocols should be based on the best available evidence and tailored to the specific contexts of Nigerian hospitals.

Strengthening Healthcare Infrastructure: Improving the infrastructure of Nigerian hospitals, including access to basic amenities like running water, electricity, and adequate sanitation, is crucial for preventing infections and managing complications. Investing in advanced surgical equipment, such as operating microscopes and laparoscopic devices, can also improve surgical outcomes.

Education and Training: Continuous education and training of surgical teams in evidence-based practices, including infection control, surgical techniques, and complication prevention and management, is essential. Promoting collaboration between surgeons, nurses, and other healthcare professionals can optimize patient care and improve outcomes.

Challenges and Future Directions

Despite efforts to improve the management of POCs in Nigerian surgical patients, several challenges persist:

Limited Resources: The resource-limited nature of many Nigerian hospitals remains a significant hurdle to implementing comprehensive preventive and management strategies.

Healthcare Workforce Shortages: A shortage of skilled healthcare professionals, including surgeons, nurses, and anesthetists, hinders the delivery of optimal patient care.

Inadequate Infrastructure: Poor infrastructure, including unreliable electricity supply, limited access to clean water, and inadequate facilities, compromises the quality of care.

Lack of Awareness and Compliance: Limited awareness among healthcare professionals and patients regarding preventive measures and adherence to protocols can hinder efforts to reduce complication rates.

Addressing these challenges requires a multi-pronged approach involving collaborative efforts between the government, healthcare providers, and the community. Investing in healthcare infrastructure, training and retaining a skilled healthcare workforce, and implementing effective policies are essential for improving the quality of surgical care and reducing the burden of POCs.

Conclusion

Postoperative complications remain a significant problem in Nigerian surgical patients, with wound infections, SSIs, pneumonia, and DVT as common occurrences. The contributing factors are complex, encompassing patient-

related, surgical-related, and system-related issues. While efforts are being made to improve management strategies, including antibiotic stewardship, early mobilization, proper wound care, and the implementation of evidence-based protocols, significant challenges remain. Addressing the issue requires a collaborative and multifaceted approach that involves improving surgical training, enhancing infrastructure development, and strengthening healthcare policies aimed at promoting patient safety and optimizing outcomes. Furthermore, conducting more robust research to establish evidence-based guidelines tailored to the unique context of Nigerian healthcare is critical for improving the future of surgical care in the country.

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