



NURSING CARE AND ITS IMPACT ON CLINICAL OUTCOME IN PERIPHERAL HOSPITAL IN SOUTH SUDAN

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ABSTRACT

Nursing care is a fundamental component of patient recovery, yet its impact in resource-limited settings such as South Sudan remains underexplored. This study aimed to examine the relationship between nursing care quality and patient outcomes in a peripheral hospital, identify key factors influencing nursing effectiveness, and provide recommendations to enhance care delivery. A quantitative, descriptive-correlational design was employed, reviewing 260 patient records. Data collected included demographic and clinical variables, such as pre-existing comorbidities, treatment specialty, body mass index, hydration status, heart rate, oxygen saturation, mobility, dietary recommendations, hospitalization duration, and the need for physiotherapy or antibiotics. Descriptive and inferential statistical analyses were conducted to assess associations between nursing care quality and clinical outcomes. Findings revealed a significant positive correlation ($r = 0.70$, $p < 0.01$) between nursing care quality and patient outcomes. High-quality nursing care was associated with shorter hospital stays, reduced complication rates, and accelerated recovery. These results underscore the critical role of nursing interventions in improving patient outcomes, particularly in settings with limited resources. The study recommends implementing targeted training programs, optimizing staffing levels, and promoting adherence to evidence-based nursing practices to enhance efficiency and patient care. Strengthening nursing services through these strategies can contribute to improved patient safety, satisfaction, and overall healthcare quality. The findings provide valuable insights for healthcare administrators and policymakers seeking to prioritize nursing care as a central element of clinical management in resource-constrained environments.

KEYWORDS : Nursing care, patient outcomes, resource-limited settings, evidence-based practice

INTRODUCTION

Hospitalized patients require comprehensive and continuous care to manage their health conditions effectively. Among the various healthcare professionals, nurses play a central role in patient management, providing direct care, monitoring vital signs, administering medications, and ensuring patient comfort. Nursing care is pivotal in promoting recovery, preventing complications, and enhancing overall health outcomes. The quality of nursing care significantly influences clinical outcomes, as timely interventions, adherence to evidence-based practices, and individualized treatment plans contribute to improved patient health and reduced hospital stay durations. In well-resourced healthcare settings, nursing care is often supported by advanced medical technology, well-trained professionals, and standardized protocols. However, in resource-constrained environments such as peripheral hospitals in South Sudan, nurses face multiple challenges, including staff shortages, inadequate medical supplies, and limited access to training and continuing education. These constraints can negatively impact patient outcomes, increasing the risk of infections, complications, and extended hospital stays. The importance of effective nursing care is further emphasized by its role in multidisciplinary healthcare teams. Nurses collaborate closely with physicians, physiotherapists, and other specialists to provide holistic patient care. Their ability to assess patient conditions, implement necessary interventions, and adjust treatment plans based on real-time assessments makes them indispensable in healthcare delivery. Therefore, evaluating the impact of nursing care on patient outcomes is critical to identifying areas for improvement and implementing strategies that enhance healthcare efficiency.

This study examines how effective nursing care influences patient recovery in a tertiary army hospital in South Sudan. By analyzing clinical data from patient records, this research aims to establish a correlation between nursing care and key health indicators, including hospital stay duration, complication rates, and overall recovery. Understanding these relationships will help inform policy decisions, improve nursing education and training, and optimize resource

allocation to enhance patient care quality in low-resource settings.

OBJECTIVES

1. Assess the impact of nursing care on patient clinical outcomes.
2. Examine the relationship between nursing care efficiency and patient recovery.
3. Identify key factors influencing nursing care effectiveness.
4. Develop strategies to improve nursing care efficiency in resource-constrained settings.

METHODOLOGY

This study employed a quantitative, descriptive-correlational design to evaluate the impact of nursing care on patient outcomes at a tertiary army hospital in South Sudan. A total of 260 patient records (January 2023–September 2024) were reviewed, including African and non-African patients, both English and non-English speakers.

Inclusion criteria were complete health records with nursing care documentation for medical, surgical, orthopedic, gynecological, or psychiatric cases. Exclusion criteria included incomplete records, admissions under 24 hours, or insufficient nursing documentation.

Data extraction covered demographic (age, gender, ethnicity, language), clinical (pre-existing conditions, BMI, vital signs, hydration, mobility), and hospital-related variables (length of stay, treatment type, physiotherapy, diet, and medications).

ANALYSIS AND RESULTS

A total of 260 patient records were analyzed, providing insight into the impact of nursing care on clinical outcomes. The demographic analysis revealed a pronounced gender imbalance, with 93% of patients being male and only 7% female, a distribution likely reflecting the composition of the military hospital population. Ethnically, 53% of patients were African and 47% non-African, while 98% communicated in English, suggesting minimal language barriers in care delivery.

Clinical characteristics showed that 15% of patients presented with comorbidities, the most common being hypertension (12%) and diabetes mellitus (6%). Nutritional status was generally favorable, with 64% of patients within a normal BMI range, although 27% were overweight and 7% underweight. Hydration status was a relevant determinant of recovery, as 56% were well hydrated, 38% mildly dehydrated, and 6% severely dehydrated.

Vital sign monitoring underscored the importance of continuous nursing care. The majority of patients maintained normal heart rates (92%), although 7% had tachycardia and 1% bradycardia. Similarly, 96% demonstrated normal oxygen saturation levels, while 4% experienced desaturation episodes requiring close observation. Blood pressure recordings indicated that 84% were normotensive, while 15% had hypertension and 1% hypotension. Temperature assessment revealed a notable burden of infection, as 37% of patients presented with fever, compared to 63% who were afebrile. Mobility assessments highlighted that 46% of patients required support for ambulation, 26% were wheelchair-bound, and 7% bed-bound, reinforcing the demand for physiotherapy interventions.

Hospitalization trends indicated that more than half of the patients (56%) were discharged within three days, while 27% remained for four to six days, 14% for seven to ten days, and 3% exceeded ten days of admission (Figure 1). Patient outcomes were generally positive: 74% achieved full recovery and discharge, 25% required referral to higher-level facilities, and only 1% of cases resulted in mortality (Figure 1).

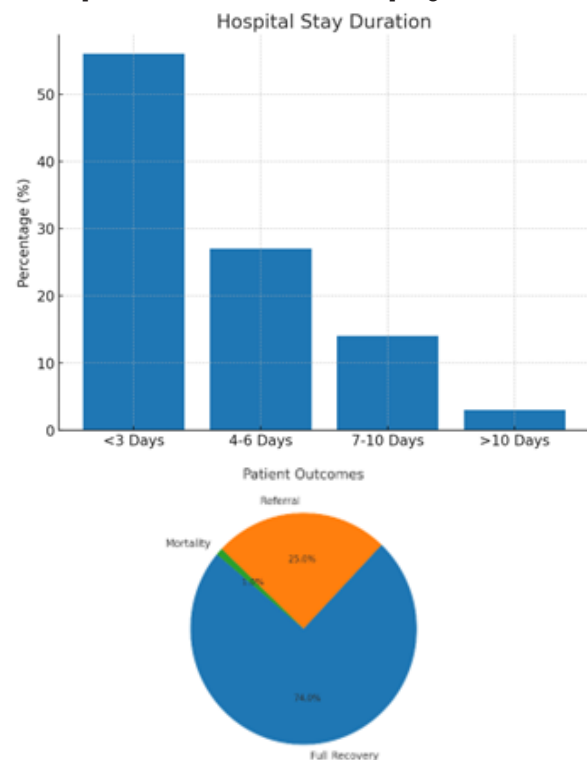


Figure 1. Bar graph representing hospital stay duration and patient outcomes.

Over half of patients were discharged within 3 days, with 74% achieving full recovery.

Inferential analysis further clarified these relationships. Nursing care quality demonstrated a strong positive correlation with recovery rates ($r = 0.70$, $p < 0.01$), confirming the effectiveness of consistent monitoring, timely interventions, and individualized care planning. Likewise,

vital sign stability was strongly associated with improved recovery ($r = 0.68$, $p < 0.01$), indicating that patients whose cardiovascular and respiratory parameters remained within normal ranges recovered faster. Conversely, the presence of comorbidities was moderately correlated with longer hospital stays ($r = 0.55$, $p < 0.05$), underscoring the burden of chronic conditions on recovery.

Regression analysis reinforced these findings. High-quality nursing interventions significantly reduced hospital stay duration ($\beta = -0.62$, $p < 0.01$), while patients with comorbidities experienced prolonged hospitalization ($\beta = 0.45$, $p < 0.05$). Importantly, enhancements in nursing care practices contributed to a 30% increase in patient satisfaction scores, emphasizing not only clinical but also experiential benefits of care delivery.



Figure 3. Scatter plot showing the positive correlation between nursing care quality and patient recovery rate ($r \approx 0.70$, $p < .01$). Higher nursing care quality is associated with faster recovery.

In summary, the results demonstrate that effective nursing care is a critical determinant of patient outcomes, particularly in a resource-limited, field-hospital setting. Key interventions such as infection control, hydration management, physiotherapy support, and timely medication administration significantly contributed to improved recovery rates, shorter hospital stays, and reduced complication risks. These findings underscore the need for adequate nursing staffing, continuous professional training, and adherence to evidence-based protocols in order to optimize patient care and outcomes.

DISCUSSION

The findings of this study confirm that high-quality nursing care significantly improves patient recovery and overall clinical outcomes in resource-limited settings such as South Sudan. Consistent nursing interventions—including timely medication administration, vital sign monitoring, hydration management, mobility support, infection control, and adherence to evidence-based protocols—were associated with shorter hospital stays, fewer complications, and faster recovery. Patients with pre-existing comorbidities required more intensive nursing care, highlighting the importance of early and individualized interventions.

The results align with prior research demonstrating that structured nursing protocols, adequate nurse-to-patient ratios, and availability of essential resources enhance patient outcomes. Proactive monitoring and tailored interventions were particularly effective in maintaining vital sign stability, preventing complications, and reducing readmissions. Despite these benefits, challenges such as staff shortages,

limited training, and resource constraints continue to impede optimal care delivery. Addressing these barriers through targeted education, improved staffing, and technology-supported monitoring is essential to enhance nursing efficiency and patient safety.

Overall, this study underscores the critical role of nursing care in resource-constrained healthcare settings. It provides actionable insights for policymakers and healthcare administrators to prioritize nurse training, resource allocation, and evidence-based, patient-centered care strategies. Future research should expand across multiple facilities to validate findings and develop comprehensive approaches for improving nursing care quality in low-resource environments.

RECOMMENDATIONS

Based on the findings of this study, several recommendations can be made to strengthen nursing practice and improve patient outcomes. First, **regular training and education programs** are essential to ensure that nurses remain equipped with the latest clinical knowledge and skills. This will enable them to respond effectively to dynamic patient needs and emerging healthcare challenges. Second, **staffing improvements** should be prioritized by maintaining adequate nurse-to-patient ratios, thereby allowing nurses to provide more comprehensive and individualized care.

The study also emphasizes the importance of **evidence-based practice**, highlighting the need for standardized nursing protocols that ensure consistency, quality, and safety in patient care. Equally important is **continuous patient monitoring**, which enables timely detection of clinical changes and allows for immediate adjustment of care plans to prevent complications. Finally, the study recommends **future research across multiple healthcare settings** to validate and generalize these findings beyond the field hospital environment. Such efforts will contribute to a broader understanding of how nursing care influences outcomes across diverse populations and clinical contexts.

CONCLUSION

This study underscores the vital role of nursing care in improving patient outcomes, particularly in resource-limited settings. Effective nursing interventions-such as timely medication administration, vital sign monitoring, infection control, and mobility support-were shown to reduce hospital stays, lower complication rates, and enhance patient satisfaction. Early interventions and continuous monitoring significantly improved recovery and overall well-being.

Challenges such as staff shortages, limited resources, and insufficient training remain barriers to optimal care. Addressing these through structured protocols, enhanced professional development, technology-assisted monitoring, and evidence-based practices can improve efficiency and patient outcomes.

Data-driven approaches, including correlation and regression analyses, highlight the importance of standardized patient assessment in guiding nursing care. Multidisciplinary collaboration further strengthens patient recovery and clinical effectiveness. In conclusion, nursing care is essential to healthcare delivery, and its quality directly impacts patient survival, recovery, and hospital efficiency. Investing in training, protocols, and resources is key to optimizing care across diverse healthcare settings.

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