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The Impact of Nurse-Led Initiatives on Patient Satisfaction: A Systemic Review

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Abstract

Nursing interventions include many actions such as physical care, emotional support, patient education, prescription delivery, and coordination of healthcare services. They significantly influence patient outcomes. This study sought to determine the most efficacious nursing strategies for enhancing patient outcomes. A comprehensive evaluation was performed to evaluate the effect of nursing interventions on patient outcomes in diverse healthcare environments. Six studies were incorporated for the review. A thorough search was conducted utilizing databases including the Cochrane Library, Google Scholar, Web of Science Core Collection, PubMed, and Scopus. Only papers published in English from January 2000 to December 2024 were included. A systematic procedure was implemented, encompassing study selection, data extraction, and synthesis of findings. The findings from these studies illustrate the beneficial effects of particular nursing treatments across diverse healthcare environments. The analysis of the chosen trials demonstrated that nursing interventions significantly enhanced patient outcomes. Interventions include patient education, medication management, infection control, pain management, wound care management, and fall prevention demonstrated efficacy across various healthcare environments. This review's findings illustrate the beneficial effects of several nursing interventions across diverse healthcare environments. Implementing these treatments can enhance patient outcomes, improve patient safety, and contribute to superior overall healthcare quality.

Keywords: Nursing Interventions, Patient Satisfaction, Nurse-Led Initiatives, Patient Outcomes, Healthcare Quality, Patient Education, Medication Management, Infection Control, Pain Management.

Introduction

Nursing interventions significantly influence patient outcomes [1]. Nurses are tasked with executing measures designed to prevent sickness, promote health, and deliver patient care [2]. The execution of nurse interventions is crucial for improving patient outcomes and ensuring the delivery of outstanding patient-centered healthcare. Nursing interventions are actions executed by nurses to enhance health, avert sickness, and address the physical, emotional, and social requirements of patients [3]. These interventions may encompass various activities, including patient education, medication management, infection control, pain management, and fall prevention [4]. Pain treatment therapies, encompassing both non-pharmacological and pharmacological methods, were demonstrated to effectively diminish pain intensity and enhance patient satisfaction [5, 6]. Patient education emerged as a highly effective nursing intervention

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for enhancing patient outcomes, including increased knowledge and comprehension of the condition, as well as improved adherence to treatment regimens. Additionally, medication management interventions, such as medication reconciliation and reviews, proved effective in minimizing medication errors and adverse drug events [7]. Patient education has demonstrated efficacy in enhancing outcomes, including augmented knowledge and comprehension of the illness, improved adherence to treatment regimens, and enhanced self-management capabilities [8].

Interventions in medication management, such as medication reconciliation, medication reviews, and patient education regarding medication usage and side effects, can decrease medication mistakes and adverse drug events, enhance medication adherence, and mitigate the risk of drug interactions [9]. Infection control interventions, including hand hygiene and isolation precautions, effectively reduced healthcare-associated infections and enhanced patient safety. The implementation of infection control measures, such as hand hygiene, isolation protocols, personal protective equipment usage, and environmental cleanliness, can diminish the risk of healthcare-associated infections and promote patient safety [10, 11]. Interventions for fall prevention, such as educating patients on fall prevention, utilizing assistive equipment, and modifying the environment, can diminish the incidence of falls and associated injuries, especially in older persons who are at heightened risk of falling [12]. The efficacy of these strategies in reducing falls and related injuries highlights the vital role of nurses in improving patient outcomes and providing exemplary patient-centered care [13]. This study seeks to perform a thorough assessment of the effects of nursing interventions on patient outcomes, leveraging the results of the systematic review.

Materials and Methods

Search Strategy

The search strategy included a combination of keywords related to nursing interventions and patient outcomes; the search was limited to studies conducted in healthcare settings.

Data Sources

The investigators conducted a thorough examination of electronic databases from January 2000 to December 2024, including Google Scholar, the Cochrane Library, Web of Science Core Collection, PubMed, and Scopus. The search was restricted to articles published in English. This assessment identified six articles directly pertinent to our research question regarding the influence of nursing interventions on patient outcomes across diverse healthcare settings and populations.

Inclusion and Exclusion Criteria

The inclusion criteria encompassed research examining the effects of nursing interventions on patient outcomes, excluding studies that concentrated on specific patient populations or clinical environments. The review included studies that met these criteria: (1) assessed the effect of nursing interventions on patient outcomes, (2) employed a randomized controlled trial, quasi-experimental, or observational design, (3) involved adult patients, and (4) were conducted in healthcare environments. Studies concentrating on particular populations or diseases were omitted.

Design

A systematic review methodology was employed in the study to assess the effect of nursing interventions on patient outcomes. The review adhered to the Preferred Reporting Items for Systematic Reviews using a flow diagram of the study to ensure the transparency and thoroughness of the review process.

Data Extraction

The researchers extracted data from the selected studies that met the inclusion criteria. The extracted information comprised study design, sample size, intervention type, measured outcomes, and outcomes achieved.

Analysis Methods

The analysis of the studies included in the review was conducted systematically, with the results presented through a narrative analysis as detailed below: Initially, study selection involves identifying pertinent studies through a thorough database search, employing specific search terms and inclusion criteria. This process includes screening results based on titles, abstracts, and full-text articles to select studies that fulfill the established eligibility criteria. Secondly, extract pertinent data from the chosen studies. The quality and risk of bias for each included study were evaluated, and the findings were subsequently aggregated to discern patterns and trends.

Results

Table 1 and Figure 1 summarize the nursing interventions analyzed in the systematic review. Interventions aimed at educating patients with chronic diseases enhanced their knowledge and self-management skills in both hospital and community clinic environments. Interventions in medication management enhanced adherence and decreased adverse events in both hospital and long-term care environments. Infection control interventions reduced healthcare-associated infections in adults within hospitals and long-term care facilities. Hospital interventions for pain management enhance pain control and increase patient satisfaction. Interventions aimed at preventing falls in hospitals and long-term care facilities have effectively decreased the incidence of falls and related injuries, employing strategies such as alarms and exercise programs. Interventions for wound care management in hospitals, community clinics, and long-term care settings have led to accelerated wound healing and reduced infection rates in adults with diverse wound types. These interventions are essential for improving patient outcomes, ensuring patient safety, and enhancing overall healthcare quality.

Nursing intervention	Patient population	Healthcare setting	Key findings
Patient education	Adults with chronic diseases (e.g., diabetes, hypertension)	Hospital, community clinic	Improved patient knowledge and self-management of chronic diseases
Medication management	Adults with various conditions	Hospital, long-term care	Increased medication adherence and reduced medication-related adverse events

Infection control	Adults with various conditions	Hospital, long-term care	Decreased incidence of healthcare-associated infections
Pain management	Adults with acute or chronic pain	Hospital	Improved pain control and patient satisfaction
Fall prevention	Older adults or adults at risk for falls	Hospital, long-term care	Reduction in falls and fall-related injuries observed in interventions such as alarms and exercise programs
Wound care management	Adults with wounds (e.g., laceration, puncture, burn, and avulsion wound)	Hospital, community clinic, long-term care	Wound care management interventions resulted in reduced wound healing time and lower infection rates

Table 1. Summary of the Results of the Studies Included in the Study

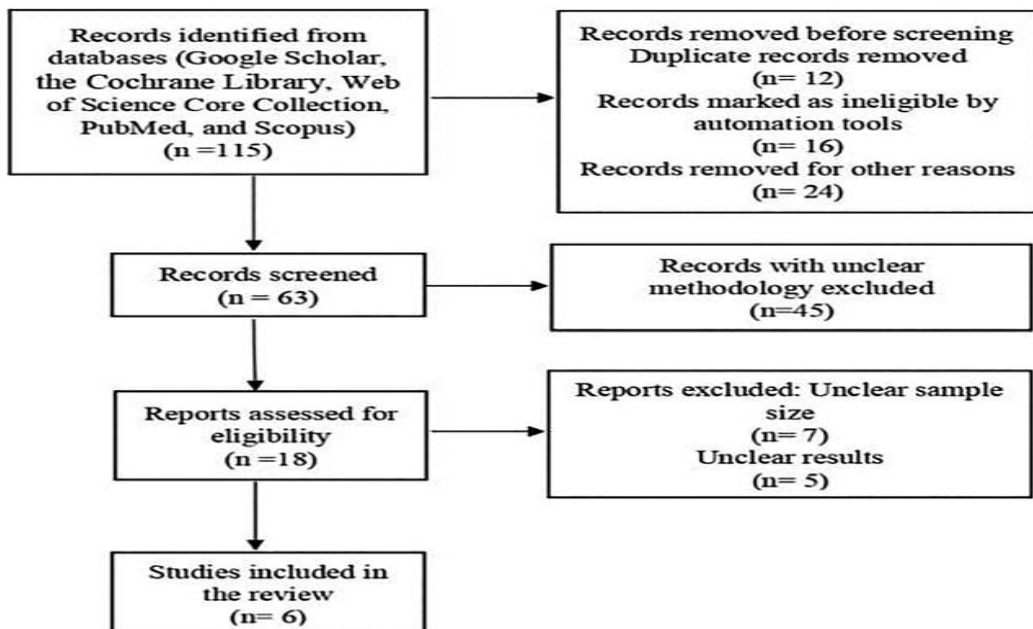


Fig 1.

Flowchart of the research investigation. The flowchart delineates the systematic process for the inclusion and exclusion of studies in this evaluation. This study involved an extensive search across various databases, including Google Scholar, the Cochrane Library, Web of Science Core Collection, PubMed, and Scopus. A total of 115 records were initially identified. Following the elimination of duplicate records ($n = 12$) and the utilization of automation technologies to identify ineligible records ($n = 16$), an additional 24 records were removed for various reasons. Subsequently, the remaining 63 records were meticulously examined. Of these, 45 records were removed owing to ambiguous methodology. An additional evaluation was conducted on the

remaining 18 reports for eligibility. Of these, 7 publications were removed due to confusing sample sizes, while 5 reports presented unclear results. The review comprised a total of six studies that satisfied the inclusion criteria.

Table 2 presents the study attributes, including publication year, study design, nursing intervention, patient population, and outcome measures, offering a succinct overview of the systematic review's scope. Table 3 aids in understanding the scope of the systematic review and identifying patterns in the included interventions and studies. The studies examine diverse patient populations and nursing interventions, focusing on their effects on outcome measures pertinent to diabetes management, heart failure, orthopedic surgery, pain management, fall prevention, and wound care.

Study	Study Design	Patient Population	Nursing Intervention	Outcome Measures
Chen et al. [14] (2021)	Randomized controlled trial	Adults with type 2 diabetes	Empowerment-based intervention	HbA1c levels, psychosocial self-efficacy, diabetes knowledge
Marques et al. [15] (2022)	Systematic review and meta-analysis	Patients with heart failure	Nursing educational intervention with home visits and telephone contact	Hospital readmission, mortality of patients with heart failure
Bai et al. [16] (2021)	Randomized controlled trial	Elderly patients undergoing orthopedic surgery	Operating room nursing intervention	Grade A incision healing rate, length of hospital stays, patient satisfaction rate
Germossa et al. [17] (2022)	Quasi-experimental	Patients admitted to inpatient departments	Nurse-led pain management program	Proportion of patients perceiving staff response within 30 minutes, overall patient satisfaction with pain management
Ojo and Thiamwong [18] (2022)	Systematic review	Older adults	Nurse-led fall prevention programs	Reduction in fall rates, reduction in fall incidents, changes in patient behavior
Tegegne et al. [19] (2022)	Hospital-based cross-sectional study	Nurses working in government hospitals of South Wollo Zone, Ethiopia	Assessment of knowledge and practice of wound care	Knowledge and practice of wound care among nurses

Table 2: Summary of Study Characteristics

Table 3 summarizes recommendations for nursing practice derived from the reviewed interventions. The recommendations highlight the significance of evidence-based nursing practices in areas such as patient education, medication management, infection control, pain management, fall prevention, and wound care. Implementing these recommendations enables nurses to enhance patient outcomes, improve patient safety, and provide high-quality care.

Nursing Intervention	Recommendations
Patient education	Include patient education as a standard component of nursing care for patients with chronic diseases
Medication management	Implement medication reconciliation and monitoring programs to prevent medication errors and adverse events
Infection control	Implement evidence-based infection control measures, such as practicing hand hygiene and adopting isolation protocols
Pain management	Adopt a comprehensive pain management strategy that includes pharmacological and non-pharmacological interventions
Fall prevention	Implement fall prevention programs combining environmental modifications, exercise programs, and staff education
Wound care management	Enhance training opportunities, strengthen mentorship, incorporate wound care into nursing curricula, and implement quality improvement initiatives

Table 3: Summary of Recommendations for Nursing Practice

Discussion

The review emphasizes the significance of evidence-based nursing practice and the necessity for continuous research to determine optimal nursing interventions. These investigations were conducted in various clinical situations, including hospitals, long-term care facilities, and community settings. The nursing interventions analyzed in the research encompassed control, pain management, fall prevention, and wound care management. The research indicated that nursing interventions significantly improved patient outcomes across various healthcare settings. The effectiveness of nursing interventions stems from nurses' direct patient contact, enabling them to deliver personalized care. They also educate patients, equipping them with essential skills for managing their conditions and adhering to treatment plans. Furthermore, nurses can identify potential risks and implement strategies to avert adverse events.

Patient education interventions effectively enhanced patient awareness and self-management of chronic diseases, including diabetes and hypertension; medication management treatments increased adherence and diminished medication-related adverse events. This outcome aligns with research indicating that patient education treatments enhance patient understanding and self-management of chronic conditions [20, 21]. Patient education has been identified as a very successful nursing intervention that significantly enhances patient outcomes, particularly in glycemic management among individuals with diabetes. The study indicated that patient education enhanced awareness and comprehension of their disease, leading to increased adherence to treatment plans and improved self-management. Riegel et al. [23] reported that

patient education enhanced medication adherence in individuals with heart failure.

Medication management is an additional nursing intervention that had a beneficial effect on patient outcomes. Numerous studies indicated that medication management measures, including medication reconciliation and reviews, led to a decrease in prescription mistakes and adverse drug events. A systematic review by Baughman et al. [24] indicated that medication reconciliation interventions significantly decreased medication discrepancies and adverse drug events. Likewise, a study by Blixen et al. [25] found that medication reviews substantially reduced hospital readmissions among elderly patients.

Infection control measures, including hand cleanliness and isolation protocols, shown efficacy in enhancing patient outcomes. This outcome aligns with several studies indicating that the implementation of infection control measures resulted in a reduction of healthcare-associated infections and improved patient safety [26, 27]. A survey conducted in US hospitals noted a substantial reduction in the occurrence of healthcare-associated infections among patients in intensive care units after implementing hand hygiene treatments [28]. A study by Huis et al. [29] similarly demonstrated that the implementation of isolation methods significantly decreased the transmission of multidrug-resistant pathogens among hospitalized patients.

This systematic study also assessed nursing interventions focused on pain management. Numerous research indicated that pain treatment strategies, including non-pharmacological methods and patient-controlled analgesia, led to decreased pain intensity and enhanced patient satisfaction. This finding parallels the study of Chou et al. [30], which indicated that patient-controlled analgesia significantly diminished pain intensity in postoperative patients. A study by Wu et al. [31] shown that non-pharmacological therapies, including music therapy, significantly reduced pain intensity in cancer patients. Nursing interventions focused on fall prevention were found to positively influence patient outcomes. Numerous studies indicated that fall prevention strategies, including bed alarms and fitness programs, led to a decrease in falls. This finding is corroborated by a study indicating that the implementation of bed alarms significantly decreased falls among hospitalized elderly patients [32].

The study examined the efficacy of wound care management interventions and reported favorable outcomes; a principal finding is the substantial decrease in wound healing time. By utilizing evidence-based wound care techniques, including proper cleansing, debridement, dressing selection, and wound monitoring, healthcare providers can promote expedited wound healing. This finding is corroborated by Sibbald et al. [33], whose research indicated that extended healing duration may result in heightened pain, discomfort, and an elevated risk of complications.

Conclusion

Patient education initiatives positively influence patient outcomes, encompassing augmented knowledge, greater self-management, and enhanced quality of life. Interventions in medication management are essential for enhancing patient outcomes. The implementation of medication reconciliation and monitoring tools can avoid medication errors, improve medication adherence, and diminish adverse drug responses. Infection control techniques substantially enhance patient outcomes. Compliance with evidence-based infection control protocols, including adequate hand hygiene and isolation measures, diminishes the occurrence of healthcare-associated infections. Effective pain management strategies, including both pharmaceutical and non-pharmacological methods, enhance outcomes for patients suffering from acute or chronic pain.

Employing a multimodal pain management strategy can enhance pain control and elevate patient satisfaction. Fall prevention programs are crucial for decreasing the occurrence of falls and associated injuries, especially among the elderly and others at risk.

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