

Evidence-Based Nursing Interventions for Improving Overall Health: A Comprehensive Review

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Abstract

Evidence-based nursing practice integrates clinical expertise with the best available research evidence and patient preferences to optimize health outcomes [1]. This paper examines key nursing interventions that have demonstrated significant impact on improving overall health across diverse patient populations. The interventions reviewed include patient education, medication management, fall prevention strategies, care coordination, pain management approaches, and telehealth nursing. Each intervention is supported by recent empirical evidence demonstrating measurable improvements in patient outcomes, quality of life, and healthcare system efficiency.

Keywords

Evidence-Based Practice, Nursing Interventions, Patient Outcomes, Care Coordination, Patient Education, Health Literacy, Patient Safety, Telehealth Nursing

1. Introduction

The healthcare landscape continues to evolve with increasing complexity, requiring nurses to implement interventions grounded in scientific evidence. Evidence-based practice (EBP) represents a problem-solving approach that incorporates the best available research evidence, clinical expertise, and patient values to guide healthcare decisions [2]. Nurses, as frontline healthcare providers, play a pivotal role in translating research findings into clinical practice to enhance patient outcomes and overall health status.

The concept of overall health extends beyond the absence of disease to encompass physical, mental, social, and functional well-being. Nursing interventions tar-

getting these multiple dimensions of health have demonstrated substantial impact on reducing morbidity, preventing complications, enhancing quality of life, and promoting patient engagement in self-care. This paper synthesizes current evidence on nursing interventions that significantly contribute to improving overall health outcomes.

Overall health is operationally defined as a multidimensional state of equilibrium characterized by:

1) Clinical Stability: The absence or successful management of acute complications (e.g., infections, falls, or adverse drug events).

2) Functional Independence: The ability to perform physical activities (early mobilization) and manage self-care (health literacy).

3) Psychological Resilience: The mitigation of mental health symptoms (anxiety/depression) and effective pain control.

4) Systemic Efficiency: The maintenance of health status without the need for unplanned acute care utilization (readmissions/ED visits).

2. Literature Review

2.1. Patient Education and Health Literacy

Patient education represents a fundamental nursing intervention with far-reaching effects on health outcomes [2]. Structured educational programs delivered by nurses have shown effectiveness in improving disease management, medication adherence, and health behaviors. Nurses serve as educators who translate complex medical information into understandable concepts that empower patients to make informed decisions about their health.

Recent evidence demonstrates that tailored patient education interventions significantly improve self-management capabilities in chronic diseases such as diabetes, heart failure, and chronic obstructive pulmonary disease [3]. Educational interventions that incorporate teach-back methods, where patients demonstrate their understanding by explaining information back to the nurse, have proven particularly effective in ensuring comprehension and retention [2].

2.2. Medication Reconciliation and Management

Medication errors represent a significant threat to patient safety, with adverse drug events contributing to preventable hospital admissions and complications. Nurse-led medication reconciliation programs systematically identify and resolve discrepancies in patients' medication regimens across care transitions [4]. These interventions involve comprehensive medication reviews, patient counseling, and coordination with physicians and pharmacists to optimize therapeutic regimens.

Studies demonstrate that systematic medication reconciliation performed by nurses reduces medication discrepancies by up to 70% and significantly decreases adverse drug events [4]. The intervention is particularly critical during care transitions, such as hospital admission, transfer, and discharge, when communication breakdowns frequently occur.

2.3. Fall Prevention Programs

Falls represent a major cause of injury, disability, and mortality, particularly among older adults. Multifactorial fall prevention programs implemented by nurses address multiple risk factors including environmental hazards, medication side effects, gait and balance impairments, and cognitive factors [5]. These comprehensive programs typically include risk assessment, environmental modifications, patient and family education, exercise interventions, and assistive device provision.

Evidence consistently supports the effectiveness of nurse-led fall prevention initiatives in reducing fall rates in both hospital and community settings [5]. Successful programs employ standardized risk assessment tools, implement evidence-based protocols, and engage interdisciplinary teams to address identified risk factors systematically.

2.4. Care Coordination and Transitional Care

Care coordination represents a critical nursing function that ensures continuity and integration of healthcare services across settings and providers. Transitional care programs, often nurse-led, focus on preventing adverse events during care transitions through comprehensive discharge planning, patient education, medication reconciliation, and post-discharge follow-up [6].

Research demonstrates that transitional care interventions significantly reduce hospital readmissions, emergency department visits, and healthcare costs while improving patient satisfaction and health outcomes [1]. The Transitional Care Model, which involves advanced practice nurses providing comprehensive in-hospital planning and home follow-up, has shown particularly robust evidence of effectiveness [1]. These programs have demonstrated reductions in readmission rates of up to 30% while simultaneously improving patient and caregiver satisfaction [6].

2.5. Pain Assessment and Management

Inadequate pain management adversely affects physical function, psychological well-being, and overall quality of life. Evidence-based pain management requires systematic assessment using validated tools, implementation of pharmacological and non-pharmacological interventions, and regular reassessment to evaluate treatment effectiveness [7]. Nurses play a central role in pain assessment, advocacy for adequate pain control, and implementation of multimodal pain management strategies.

Contemporary evidence supports integrative approaches combining pharmacological interventions with non-pharmacological strategies such as positioning, cold/heat application, relaxation techniques, and guided imagery. Nurse-driven pain management protocols have demonstrated effectiveness in improving pain control while reducing opioid consumption and associated side effects [7].

2.6. Early Mobilization

Early mobilization interventions, implemented by nurses in collaboration with physical therapists, involve progressive physical activity beginning soon after illness onset or surgical procedures. These interventions counteract the detrimental effects of prolonged bed rest, including muscle weakness, deconditioning, venous thromboembolism, and pneumonia [8].

Mounting evidence supports early mobilization in critical care settings, post-surgical patients, and individuals with acute medical conditions. Studies demonstrate that nurse-implemented early mobilization protocols reduce length of stay, improve functional outcomes, and decrease complication rates without increasing adverse events [8]. Meta-analyses reveal that early mobilization can reduce hospital length of stay by an average of 1.5 to 2 days while improving patient mobility scores and reducing the incidence of hospital-acquired complications.

2.7. Infection Prevention and Control

Healthcare-associated infections (HAIs) cause substantial morbidity, mortality, and healthcare costs. Nurses implement evidence-based infection prevention practices including hand hygiene, aseptic technique, catheter care protocols, and environmental cleaning procedures [9]. Systematic implementation of infection control bundles, coordinated by nurses, has dramatically reduced rates of central line-associated bloodstream infections, catheter-associated urinary tract infections, and surgical site infections.

The effectiveness of nurse-driven infection prevention initiatives derives from consistent adherence to evidence-based protocols, surveillance systems to monitor infection rates, and continuous quality improvement efforts to refine practices based on outcome data [9]. Nurse-driven protocols for catheter-associated urinary tract infection prevention have demonstrated reductions in infection rates by up to 50% in acute care settings.

2.8. Pressure Injury Prevention

Pressure injuries cause pain, increase infection risk, prolong hospitalization, and diminish quality of life. Evidence-based prevention strategies include systematic risk assessment, support surface selection, repositioning protocols, skin care, nutritional optimization, and patient/family education [8]. Nurses implement comprehensive prevention bundles that address multiple risk factors simultaneously. Research demonstrates that systematic implementation of evidence-based pressure injury prevention protocols significantly reduces incidence rates. Key elements include regular risk assessment using validated tools, individualized prevention plans, and interdisciplinary collaboration to address modifiable risk factors [8].

2.9. Mental Health Screening and Intervention

Mental health conditions, including depression and anxiety, frequently co-occur

with physical illnesses and adversely affect health outcomes. Nurse-led mental health screening programs identify individuals at risk, enabling early intervention and referral to appropriate services [3]. Brief interventions delivered by nurses, including supportive counseling, psychoeducation, and cognitive-behavioral techniques, show effectiveness in reducing symptoms and improving overall well-being.

Integration of mental health screening into routine nursing assessment ensures holistic care that addresses psychological as well as physical health needs. Evidence supports screening for depression in high-risk populations, including individuals with chronic diseases, postpartum women, and older adults [3].

2.10. Telehealth Nursing Interventions

Telehealth technologies enable nurses to provide care, education, and monitoring remotely, expanding access to healthcare services. Telephone-based nursing interventions, video consultations, and remote monitoring systems facilitate ongoing patient support, symptom management, and early identification of complications [10]. These interventions prove particularly valuable for patients with limited mobility, those living in rural areas, and individuals requiring frequent monitoring.

Evidence demonstrates that telehealth nursing interventions improve disease management, reduce hospitalizations, and enhance patient satisfaction while maintaining safety and clinical effectiveness [10], see **Figure 1**. The COVID-19 pandemic has driven the widespread adoption of telemedicine models, with existing research evidence indicating that they can be integrated into sustained strategies in healthcare practices. Studies indicate that telehealth nursing programs can reduce hospital readmissions by 15% - 25% while improving medication adherence and self-management behaviors.

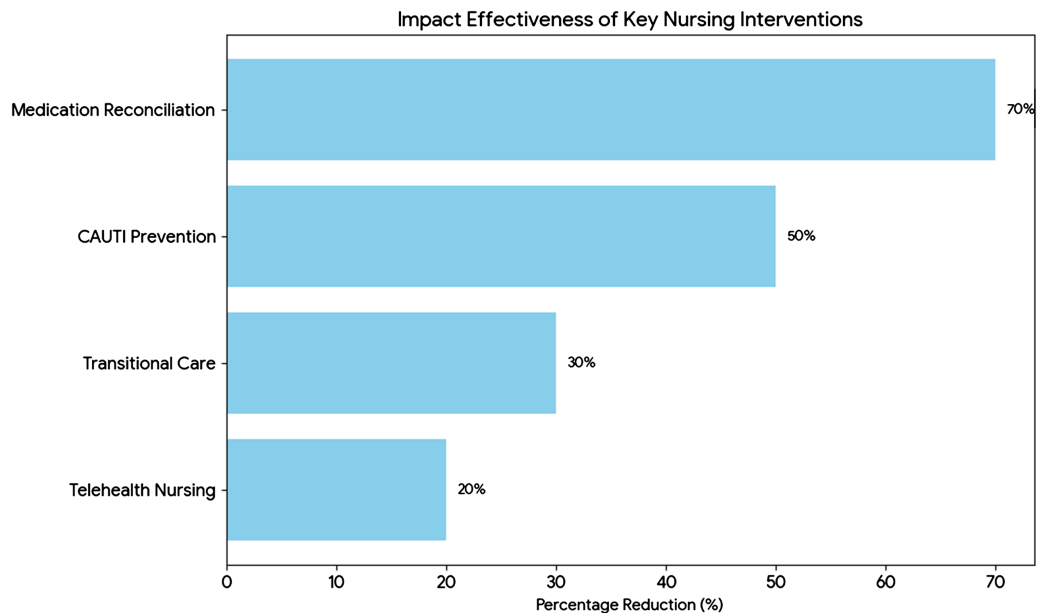


Figure 1. Demonstration of the impact of nursing interventions.

3. Discussion

The evidence reviewed demonstrates that nursing interventions significantly impact overall health through multiple mechanisms. These interventions share common features including systematic assessment, individualized care planning, patient education and empowerment, interdisciplinary collaboration, and continuous monitoring and adjustment based on patient response [2].

Implementation of evidence-based nursing interventions requires organizational support, including adequate staffing, continuing education opportunities, access to current evidence, and quality improvement infrastructure [1]. Healthcare organizations that prioritize EBP create cultures that value research utilization and provide resources necessary for nurses to implement evidence-based interventions consistently.

The translation of research evidence into clinical practice faces multiple barriers including time constraints, limited access to research literature, inadequate training in evidence appraisal, and organizational resistance to change. Strategies to overcome these barriers include establishment of EBP committees, provision of decision support tools and clinical protocols, mentorship programs, and recognition systems that reward evidence-based practice [6].

Patient engagement represents a critical factor in intervention effectiveness. Interventions that incorporate patient preferences, address individual barriers, and promote self-efficacy achieve superior outcomes compared to standardized approaches that fail to account for individual circumstances [3]. Nurses' therapeutic relationships with patients facilitate understanding of patient perspectives and enable tailored interventions that align with patient values and goals.

The economic impact of nursing interventions merits consideration in healthcare systems facing resource constraints. Evidence demonstrates that many nursing interventions generate substantial cost savings through prevention of complications, reduction of hospital readmissions, and optimization of resource utilization [2] [5] [10]. Investment in nursing workforce development and implementation of evidence-based nursing practice represents a cost-effective strategy for improving health outcomes and healthcare system efficiency.

A recent study found that patients receiving nurse-led telehealth monitoring and structured telephone support experienced a 22% reduction in 30-day all-cause readmissions compared to standard care. The intervention was particularly effective when nurses used real-time data to adjust patient self-management strategies, demonstrating that telehealth is not merely a communication tool but a platform for active clinical intervention [11].

Another recent study examined over 1200 patients. This study demonstrated that nurse-driven early mobilization protocols initiated within 48 hours of mechanical ventilation significantly increased the probability of discharging patients to home rather than to a skilled nursing facility (Odds Ratio: 1.45). Furthermore, it confirmed a mean reduction in ICU length of stay by 1.8 days, directly correlating physical activity with improved cognitive and functional recovery [12].

4. Implications for Practice

Healthcare organizations should prioritize implementation of evidence-based nursing interventions through several strategies. First, establishment of robust EBP infrastructure including access to research databases, journal clubs, and clinical experts facilitates evidence utilization [1]. Second, development of standardized protocols and clinical pathways incorporating evidence-based interventions ensures consistency in care delivery. Third, ongoing competency assessment and continuing education maintain nurses' knowledge and skills in evidence-based practice.

Nurse leaders play pivotal roles in creating environments conducive to EBP. Leadership strategies include modeling evidence-based decision making, allocating resources for EBP initiatives, recognizing and rewarding staff who champion evidence-based practice, and establishing quality metrics that monitor implementation and outcomes of evidence-based interventions [1].

Educational programs preparing future nurses must emphasize EBP competencies including formulating clinical questions, searching and appraising research literature, synthesizing evidence, and implementing evidence-based changes [2]. Integration of EBP through nursing curricula, rather than isolated courses, develops habitual use of evidence in clinical reasoning.

The interventions prioritized in this review were strategically selected based on their high-volume clinical impact, the density of available empirical evidence, and their alignment with modern healthcare shifts toward transitional and digital care models. By focusing on practices with quantifiable outcomes—such as medication reconciliation, infection control, and telehealth, this manuscript highlights the most potent levers for reducing “never events” and improving systemic efficiency through nurse-led action. However, it is essential to acknowledge that nursing's contribution to “overall health” is inherently multidimensional and extends beyond these specific clinical bounds. While fundamental to holistic care, domains such as nutritional counseling, spiritual support, public health outreach, and cultural competency were excluded from this analysis to maintain a rigorous focus on interventions with standardized, high-density empirical metrics. This targeted approach ensures a high-fidelity examination of the evidence-based practices currently providing the most immediate, measurable benefits to patient safety and healthcare value.

While evidence-based interventions provide a blueprint for clinical excellence, their efficacy is permanently linked to the socioeconomic and cultural context of the patient population. Addressing “overall health” requires nurses to recognize that barriers such as low health literacy, financial instability, and language discordance can significantly dilute the impact of even the most robust protocols. For instance, nurse-led telehealth interventions or medication reconciliation programs can only achieve their efficacy benchmarks if the patient has reliable digital access or the financial means to fulfill adjusted prescriptions. Furthermore, integrating cultural humility into patient education ensures that interventions are not only scientifically sound but also personally relevant and accessible. By addressing

these social determinants of health (SDOH), nursing practice moves beyond a “one-size-fits-all” application of research, ensuring that improvements in health outcomes are distributed equitably across marginalized and underserved communities.

This review synthesizes a broad range of evidence supporting nurse-led interventions, several limitations must be acknowledged. First, the scope of this paper is primarily focused on interventions with high-density, quantitative outcome metrics, which may inadvertently overshadow the significant but less quantifiable aspects of nursing, such as holistic spiritual care and therapeutic presence. Second, the diversity of healthcare settings—ranging from rural telehealth to urban critical care—means that the generalizability of certain findings, such as specific percentage reductions in fall rates or readmissions, may vary based on institutional resources and staffing ratios. Furthermore, the review relies on existing literature which often exhibits a publication bias toward successful interventions, potentially underrepresenting the challenges of implementation in under-resourced environments. Finally, while the impact of socioeconomic and cultural factors was addressed, a more granular analysis of how specific social determinants of health (SDOH) influence the longitudinal success of these interventions was beyond the current scope of this review.

5. Conclusions

Evidence-based nursing interventions represent powerful tools for improving overall health across diverse patient populations and healthcare settings. The interventions reviewed in this paper—patient education, medication management, fall prevention, care coordination, pain management, early mobilization, infection control, pressure injury prevention, mental health screening, and telehealth nursing—demonstrate substantial impact on health outcomes when implemented systematically and consistently [3] [5] [10].

Continued advancement of nursing science through rigorous research, combined with effective translation of evidence into practice, will further enhance nursing’s contribution to population health. Healthcare systems that invest in nursing workforce development, provide infrastructure supporting evidence-based practice, and recognize nursing’s essential role in care delivery will achieve superior outcomes, improved patient experiences, and enhanced healthcare value [1].

The future of nursing practice depends on sustained commitment to evidence-based practice, continuous quality improvement, and patient-centered care. As healthcare complexity increases and populations age, the demand for skilled nursing interventions grounded in scientific evidence will intensify [6]. Meeting this challenge requires dedication to lifelong learning, critical thinking, and unwavering focus on improving health outcomes through application of best available evidence.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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