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The Effectiveness of Nursing Interventions in Preventing Patient Falls During Hospitalization

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ABSTRACT: Falls remain among the most common and preventable adverse events in hospital settings, contributing significantly to patient injury, prolonged length of stay, and increased healthcare costs. Nursing interventions form the frontline defense in fall prevention, encompassing a range of evidence-based strategies such as comprehensive fall risk assessments using validated tools (e.g., Morse Fall Scale, Hendrich II), individualized care planning, and environmental modifications including bed alarms, non-slip footwear, and clear signage. Research consistently demonstrates that multifactorial, nurse-led

interventions—particularly when implemented as bundled care protocols rather than isolated measures—significantly reduce fall incidence rates. Educational programs that equip nurses with the knowledge to identify high-risk patients and the confidence to act on that knowledge have shown measurable improvements in both fall rates and patient safety culture. The effectiveness of these interventions, however, depends heavily on consistent implementation, interdisciplinary collaboration, and sustained engagement from both staff and patients. Studies reveal that gaps in adherence—often stemming from staffing shortages, insufficient training, or poor communication during handoffs—can undermine even well-designed prevention programs. Patient education and involvement emerge as critical components, as falls frequently occur during unassisted mobility when patients underestimate their own risk. Additionally, the integration of technology, such as real-time monitoring systems and electronic health record prompts, has enhanced the timeliness of interventions. Overall, the evidence supports that comprehensive, individualized, and consistently applied nursing interventions are highly effective in reducing inpatient falls, though ongoing quality improvement and staff education remain essential to sustaining positive outcomes.

INTRODUCTION

Patient falls are among the most frequent and persistent adverse events in hospital care, and they remain a central concern for nursing practice because they threaten patient safety, functional independence, and the quality of care that hospitals deliver. Falls during hospitalization can result in minor injury, serious fracture, intracranial hemorrhage, prolonged length of stay, increased healthcare costs, and even death, which means that fall prevention is not merely a matter of convenience or protocol compliance but a fundamental component of safe nursing care [1]. The prevention of falls has therefore become a nursing-sensitive quality indicator, reflecting the extent to which nursing care is organized, delivered, and evaluated in ways that protect vulnerable patients [1]. Hospital payment and accreditation systems have also reinforced the importance of fall prevention by treating fall-related harm as a preventable hospital-acquired condition, which has intensified organizational attention to nursing interventions that can reduce fall incidence and injury severity [2].

Nurses occupy a distinctive position in the healthcare team because they maintain the most continuous and proximal contact with hospitalized patients. This proximity allows nurses to recognize changing risk factors, implement preventive strategies in real time, educate patients and families, modify the environment, and evaluate whether interventions are working. The central question in contemporary nursing scholarship is therefore not whether nursing interventions can prevent falls, but which interventions, delivered under which conditions, produce meaningful reductions in fall incidence and fall-related harm. The evidence base has matured from isolated, single-component approaches toward structured, multifactorial models that address the heterogeneous causes of inpatient falls [3].

The Burden and Etiology of Inpatient Falls

Falls are a major global public health problem and the second leading cause of unintentional injury-related death, and hospitalization amplifies risk through unfamiliar environments, acute illness, polypharmacy, and restricted mobility [2]. A systematic review and meta-analysis of multicomponent fall-prevention interventions among inpatients in general wards reported that falls increase length of stay by an average of 5.2 days and contribute to substantial direct and indirect healthcare costs [2]. In the United States, the Centers for Medicare & Medicaid Services categorizes falls with trauma as a hospital-acquired condition that is non-reimbursable, which signals the policy salience of fall prevention as both a clinical and an economic imperative [3]. These financial and regulatory pressures have encouraged hospitals to adopt fall prevention programs, but they have also created a risk that fall prevention becomes a documentation exercise rather than a substantive change in nursing practice [3].

The etiology of inpatient falls is multifactorial, and effective nursing prevention depends on a nuanced understanding of the interplay between patient-level and system-level determinants. Intrinsic risk factors include advanced age, cognitive impairment, delirium, muscle weakness, impaired gait and balance, visual deficits, urinary urgency or incontinence, postural hypotension, a history of previous falls, and the use of fall-risk-increasing drugs such as benzodiazepines, antidepressants, antipsychotics, and

antihypertensives [4]. Extrinsic risk factors include poor lighting, trip hazards, inappropriate bed and chair heights, inadequate footwear, clutter, and inadequate nurse staffing levels. A narrative review of root cause analyses in healthcare facilities found that patient-related factors accounted for approximately 37.5% of root causes, environmental factors for 25%, organizational and process factors for 19.6%, and staff and communication factors for 17.9% [4]. This distribution shows that falls are rarely the product of a single cause; rather, they emerge from the convergence of patient vulnerability, environmental hazard, and gaps in care processes [4].

The evidence base for fall prevention has been synthesized in several systematic reviews. A Cochrane review of interventions for preventing falls in older people in hospitals examined the full range of hospital-based interventions and concluded that multifactorial interventions probably reduce the rate of falls and risk of falling, although the certainty of evidence varies across intervention types and settings [5]. A systematic review of implementation strategies for fall prevention interventions in hospitals found that structured, standardized, and multifactorial approaches were consistently associated with reductions in fall incidence, but that staff training, leadership engagement, and integration into routine workflow varied substantially across studies [6]. A further systematic literature review of nursing-led interventions for preventing falls in hospitalized patients concluded that nurse-led multifactorial programs, patient education, and environmental modification are the most consistently supported approaches, while single-component interventions show weaker and less reliable effects [7]. These reviews together support the view that nursing interventions can be effective, but that effectiveness depends on how interventions are combined, implemented, and sustained [7].

Table 1. Principal risk domains and corresponding nursing interventions

Risk Domain	Specific Risk Factors	Corresponding Nursing Intervention
Intrinsic: cognitive	Delirium, dementia, disorientation, impulsivity	Orientation protocols, supervision, bed and chair alarms, family engagement
Intrinsic: mobility	Muscle weakness, gait instability, balance impairment	Early mobilization, physiotherapy referral, safe ambulation assistance
Intrinsic: medication	Fall-risk-increasing drugs such as sedatives, antidepressants, antihypertensives	Structured medication review and collaboration with prescribers and pharmacists
Extrinsic: environment	Poor lighting, clutter, inappropriate bed height, inadequate footwear	Environmental safety rounds, bed rails when appropriate, non-slip flooring
Extrinsic: care process	Inadequate staffing, missed rounding, communication gaps	Purposeful hourly rounding, structured handover, staffing adequacy

Fall Risk Assessment as the Foundation of Nursing Prevention

The cornerstone of effective nursing fall prevention is systematic, accurate, and repeated risk assessment. Without reliable identification of which patients are at elevated risk, the allocation of preventive resources becomes arbitrary and inefficient. Several validated instruments are widely used in hospital settings, including the Morse Fall Scale, the Hendrich II Fall Risk Model, the St. Thomas's Risk Assessment Tool in Falling Elderly Inpatients, and the Johns Hopkins Fall Risk Assessment Tool. A validation and comparison study of four fall risk assessment tools for older adults found that predictive performance varied across instruments and populations, which means that tool selection must be informed by the clinical setting and patient characteristics rather than by convention alone [8]. A comparison of the predictive validity of three fall risk assessment tools in a tertiary teaching hospital similarly found that the Hendrich II Fall Risk Model demonstrated the best predictive performance among the instruments evaluated, while the Morse Fall Scale showed variable sensitivity and specificity [9]. These findings do not imply that one tool is universally superior; rather, they indicate that risk assessment instruments are aids to clinical judgment, not substitutes for it [9].

The effectiveness of risk assessment depends not only on the psychometric properties of the tool but also on how the assessment is embedded in nursing workflow and acted upon. A quasi-experimental study implementing a multifactorial fall intervention model with a modified fall risk assessment tool reported sensitivity and specificity of 64.3% and 86.8%, respectively, with an area under the curve of 0.821 [10]. In the intervention group, patients assessed as high risk received

intensive, targeted intervention, and the number of falls among those patients decreased significantly compared with high-risk patients in the control group who did not receive the intensified protocol [10]. This finding illustrates a fundamental principle: risk assessment is a necessary but insufficient condition for fall prevention. Its value is realized only when it triggers a differentiated, risk-tailored response that matches the intensity of prevention to the level of risk [10].

Multifactorial Fall Prevention Programs

The recognition that falls are multifactorial in etiology has led to the development and evaluation of multifactorial, or multicomponent, fall prevention programs. These programs comprise two or more distinct intervention components, selected on the basis of an individualized assessment of the patient's risk factors, and delivered in an integrated rather than additive fashion. The rationale is straightforward: if falls arise from the interaction of cognitive, mobility, medication, and environmental vulnerabilities, then interventions must address that interaction rather than treating each factor in isolation. A systematic review and meta-analysis of randomized controlled trials evaluating multicomponent fall-prevention interventions among inpatients in general wards included ten randomized controlled trials with a total of 39,084 patients in intervention groups and 38,971 in control groups [2]. The meta-analysis of nine studies found that multicomponent interventions were associated with a lower risk of falls, with a relative risk of 0.78 and a 95% confidence interval of 0.62 to 0.96, although heterogeneity was substantial [2]. Subgroup analyses revealed a meaningful distinction: in subacute wards, multicomponent interventions reduced fall risk, with a relative risk of 0.73 and a 95% confidence interval of 0.58 to 0.91, whereas in acute wards no clear effect was observed, with a relative risk of 0.96 and a 95% confidence interval of 0.71 to 1.31 [2].

A Cochrane review of how effective interventions are in reducing falls in older people in hospitals reached a compatible conclusion: multifactorial interventions probably reduce the rate of falls and risk of falling, but the certainty of evidence is moderate, and some trials have shown no effect or even slight increases in falls [11]. This apparent inconsistency is not a reason to abandon multifactorial programs; rather, it indicates that the effectiveness of such programs is conditional on implementation fidelity, contextual adaptation, and the intensity with which components are delivered. Acute care environments, characterized by shorter lengths of stay, higher patient acuity, and greater turnover, may require different implementation intensities and timings than subacute or rehabilitation settings [2]. Multifactorial programs are therefore not a monolithic intervention; their effectiveness depends on the coherence with which components are combined, the fidelity with which they are delivered, and the organizational culture that sustains them [6].

A large quasi-experimental before-and-after study implementing a comprehensive multifactorial fall intervention model in a hospital setting reported that falls occurred in 396 of 171,776 inpatients in the intervention group, or 0.22%, compared with 491 of 153,601 patients in the control group, or 0.31% [10]. After adjusting for age, the incidence rate ratio was 0.693, with a 95% confidence interval of 0.607 to 0.792 [10]. The intervention also reduced the severity of fall injuries: the proportion of severe injuries decreased from 9.98% in the control group to 3.79% in the intervention group, and the number of complaints and compensation cases declined sharply [10]. These findings support the conclusion that multifactorial nursing interventions can reduce both the frequency and the severity of inpatient falls when they are implemented comprehensively and with adequate organizational support [10].

Patient Education and Engagement

Patient education has emerged as a central component of effective nursing fall prevention, particularly when it is delivered as part of a multifactorial program rather than as a standalone intervention. A Cochrane review reported that pooled data from three trials indicated that education probably reduces the rate of falls compared with usual care, with a rate ratio of 0.73, and pooled data from five trials indicated that education probably reduces the risk of falling [11]. Education is therefore not simply an informational add-on; it is a mechanism through which nurses can activate patients as partners in their own safety [11].

The effectiveness of education is enhanced when it is participatory, tailored to the patient's specific risk profile, and reinforced through multiple modalities. A quasi-experimental study of a participatory fall-prevention education program for older inpatients in integrated nursing care wards found that the experimental group had significantly higher adjusted post-intervention scores for fall-related knowledge, self-efficacy, and preventive behaviors, and the experimental ward had a numerically lower fall rate of 0.0 falls per 1,000 patient-days compared with the comparison ward [12]. A patient-centered approach that aligns nurse-assessed and patient-perceived fall risk has also shown promise: one study reported that nurse–patient alignment of perceived fall risk increased from 21.87% before the intervention to 78.13% after the intervention, suggesting that engaging patients as active partners in risk appraisal improves the coherence of prevention efforts [13]. These findings indicate that

education works best when it is dialogic, repeated, and integrated into routine nursing interactions rather than delivered as a one-time instruction [13].

The mechanism through which education exerts its effect is not merely informational. Education that fosters self-efficacy and behavioral intention—what patients believe they can do and intend to do—is more likely to translate into preventive action than didactic instruction alone [12]. Nurses are optimally positioned to deliver this education because they can integrate it into routine care interactions, reinforce it at teachable moments, and adapt it to the patient's cognitive and health literacy profile. However, education is not a panacea: its effectiveness depends on the patient's capacity to learn and act, and it must be accompanied by environmental and system-level supports that make safe behavior the default option [13].

Environmental Safety and Physical Modifications

The physical environment of the hospital is a modifiable determinant of fall risk that falls squarely within nursing's domain of influence. Environmental measures and physical protection accounted for 29.4% of the fall-reduction strategies reported in a narrative review of root cause analyses, making this the most frequently reported category of intervention [4]. Specific environmental interventions include the removal of trip hazards, the provision of adequate lighting, the use of bed rails when clinically appropriate, the maintenance of beds at safe heights, the installation of non-slip flooring, and the placement of high-risk patients in rooms proximal to the nursing station. Systematic environmental surveillance is an organizational strategy that operationalizes environmental safety as an ongoing nursing responsibility. A hospital that established a safety walk-around team to detect and eliminate fall hazards in public areas reported that the team focused on identifying frequent fall-event sites and implemented corrective measures on a scheduled basis [14]. These measures are low-cost, low-technology, and within the direct control of nursing staff, yet their effectiveness depends on consistent adherence and on the integration of environmental checks into daily workflow rather than episodic campaigns [14].

The evidence for specific environmental interventions is variable. Bed rails, for example, are widely used, but their effectiveness in preventing falls is questionable, and their use may increase injury risk in some patients [4]. Physical restraints are considered acceptable only after less restrictive alternatives have been exhausted, and their effectiveness in preventing falls is questionable given the known deleterious effects of immobilization, including pressure ulcers and functional decline [5]. The implication for nursing practice is that environmental interventions should be selected on the basis of individualized risk assessment and should favor the least restrictive alternative that adequately mitigates risk. Environmental modification is therefore most effective when it is tailored to the patient's mobility, cognition, and behavior rather than applied as a uniform bundle [14].

Medication Review and Pharmacological Risk Reduction

The contribution of medications to fall risk is well established. Fall-risk-increasing drugs include benzodiazepines, antidepressants, antipsychotics, antihypertensives, diuretics, and anticonvulsants, all of which can impair cognition, balance, gait, or blood pressure regulation [15]. Medication review as a nursing intervention involves the systematic identification of fall-risk-increasing drugs, the assessment of their ongoing indication and dose appropriateness, and collaboration with prescribers and clinical pharmacists to adjust or deprescribe medications when the risks outweigh the benefits. The National Institute for Health and Care Excellence recommends that, as part of a structured medication review, appropriate adjustments to the person's medicines should be considered to reduce the risk of falls [15]. Nursing's role in this process is one of vigilant surveillance, structured communication, and advocacy for evidence-based deprescribing, rather than unilateral pharmacological decision-making [15].

A retrospective observational study of hospitalized older adults found that a significant reduction in fall-risk-increasing drug prescriptions occurred during hospitalization when high fall risk was documented by nurses; patients with documented high fall risk were less likely to be discharged with a fall-risk-increasing drug [16]. This finding supports the prioritization of patients for medication review based on nursing assessment, and it illustrates the potential for nursing documentation to influence prescribing behavior. Multidisciplinary medication review involving physicians, nurses, and pharmacists is more effective than any single discipline acting alone. A study of multidisciplinary medication reconciliation for older hospitalized patients reported that integrating physician, nurse, and pharmacist collaboration into routine care reduced the incidence of potentially inappropriate medications at discharge, lowered the incidence of falls during hospitalization, and improved balance function [17]. However, medication review is not without complexity: deprescribing decisions must balance fall risk against the risk of destabilizing chronic conditions, and abrupt discontinuation of antidepressants and anticonvulsants is generally not

recommended [15]. Medication review is therefore most effective when it is structured, multidisciplinary, and integrated into the broader multifactorial prevention plan [15].

Nurse Staffing, Workload, and the Organizational Context of Prevention

Fall prevention is a labor-intensive activity. It requires surveillance, rounding, assistance with ambulation and toileting, patient education, environmental checks, and documentation, all of which compete for nursing time in increasingly constrained hospital environments. The relationship between nurse staffing and fall rates has therefore attracted sustained research attention. A retrospective cross-sectional study in Japanese general wards found that an increase in nursing time per patient during the night was associated with fewer fall events, whereas during the day increased nursing time appeared to contribute to more falls, a counterintuitive finding that may reflect greater patient mobility and activity during daytime hours [18]. These findings should be interpreted with caution because staffing is a complex exposure variable, and the relationship between staffing levels and falls is unlikely to be linear or uniform across settings [18].

Nurses' perceptions of staffing adequacy may be as informative as administrative staffing metrics. A study from Penn Nursing reported that nurses' assessments of their staffing adequacy were a more accurate predictor of patient safety on medical-surgical units than traditional administrative data, and that subjective perceptions of staffing adequacy were significantly associated with lower fall rates [19]. What the evidence suggests is that fall prevention cannot be reduced to a checklist or a bundle of discrete interventions; it depends on the availability of nursing time and attention to enact those interventions reliably. Organizational policies that mandate fall prevention protocols without ensuring adequate staffing to implement them may paradoxically increase pressure on nurses without achieving the intended safety outcomes. The nursing-sensitive quality indicator framework positions fall prevention as an indicator of nursing care quality, which implies a corresponding organizational obligation to resource nursing care adequately [19].

Technology-Assisted Monitoring: Promise and Uncertainty

Technological adjuncts to nursing surveillance, including bed and chair alarms, wearable sensors, video monitoring, and artificial intelligence-enabled movement detection, have proliferated in hospital settings as tools to extend the reach of nursing observation. The rationale is compelling: continuous monitoring can detect high-risk behaviors such as unassisted bed exiting or wandering before a fall occurs, potentially enabling timely intervention [20]. However, the evidence for the clinical effectiveness of these technologies in reducing fall rates is considerably weaker than their technical sophistication might suggest. A cluster randomized trial that increased bed alarm use in an urban hospital found that the intervention increased alarm use but had no statistically or clinically significant effect on fall-related events or physical restraint use [20].

A systematic review of sensor-based technologies and medical devices for fall prevention among hospitalized older adults concluded that their clinical effectiveness remains uncertain and that no randomized controlled trials have evaluated their isolated clinical effectiveness for fall prevention in older inpatients [21]. Artificial intelligence approaches have been proposed as a means of improving risk prediction and behavioral monitoring, but their implementation raises concerns about alarm fatigue, privacy, and the responsiveness of care systems to the signals they generate [22]. The absolute rate of falls associated with mobilization alarms was reduced by only 0.20 per 1,000 occupied bed-days, with a 95% confidence interval of −1.03 to 0.64, a difference that does not reach conventional thresholds of statistical or clinical significance [23]. The discrepancy between technical capability and clinical effectiveness is instructive: alarms and sensors generate signals, but signals must be interpreted and acted upon by nursing staff who may already be burdened by alarm fatigue and competing demands [20]. Technology should therefore be regarded as an adjunct to, rather than a substitute for, skilled nursing surveillance and patient engagement [20].

Table 2. Summary of evidence for major nursing fall prevention interventions

Intervention Category	Representative Components	Evidence of Effectiveness
Multicomponent programs	Individualized risk assessment plus targeted interventions across two or more domains	Relative risk 0.78 (0.62–0.96) in general wards; stronger in subacute than acute settings [2]

Patient education	Tailored fall-risk education, participatory programs, teach-back	Probably reduces rate of falls and risk of falling [11]; participatory programs improve knowledge and self-efficacy [12]
Environmental modification	Bed rails, clutter removal, lighting, non-slip flooring, safety rounds	Environmental measures comprised 29.4% of reported fall-reduction strategies [4]; safety walk-around teams identify and correct hazards [14]
Medication review	Structured review of fall-risk-increasing drugs, deprescribing, pharmacist collaboration	Reductions in fall-risk-increasing drug prescriptions during hospitalization [16]; multidisciplinary reconciliation lowers fall incidence [17]
Technology-assisted monitoring	Bed and chair alarms, wearable sensors, video monitoring	Weak evidence for bed alarms alone [20]; sensor technologies promising but clinical effectiveness uncertain [21]

Post-Fall Management: Secondary and Tertiary Prevention

The effectiveness of nursing interventions in fall prevention extends beyond primary prevention to the management of falls that do occur. Post-fall management encompasses immediate assessment for injury, safe lifting and handling, neurological and vital sign monitoring, pain assessment, documentation, incident reporting, and root cause analysis aimed at preventing recurrence. The Royal College of Physicians' National Audit of Inpatient Falls provides a structured framework for post-fall medical examination, including primary and secondary surveys, analgesia, anticoagulation review, and delirium management [24]. Post-fall protocols serve multiple functions: they standardize the immediate clinical response to minimize harm from injuries such as fractures or intracranial hemorrhage, particularly in patients taking anticoagulants; they ensure that the circumstances of the fall are systematically documented and analyzed; and they provide an opportunity for secondary prevention because a fall is one of the strongest predictors of subsequent falls [24].

The post-fall period is a critical window for reassessing risk and intensifying interventions. Nurses should review the patient's medication regimen, cognitive status, mobility, environment, and care plan, and should communicate the results of that review to the multidisciplinary team [24]. The effectiveness of post-fall management as a component of a comprehensive fall prevention strategy is therefore both direct, through injury mitigation, and indirect, through the generation of actionable information for future prevention. Hospitals that treat post-fall review as a learning opportunity rather than a blame allocation exercise are better positioned to translate individual fall events into system-level improvements [6].

Discussion: Reconciling Efficacy with Real-World Effectiveness

The evidence reviewed in this article supports a nuanced conclusion regarding the effectiveness of nursing interventions in preventing patient falls. The strongest and most consistent evidence favors multifactorial, individualized programs that combine risk assessment, patient education, environmental modification, medication review, and direct nursing surveillance [2]. Multicomponent interventions reduced fall risk by approximately 22% in general wards, with a somewhat larger effect in subacute settings and no clear effect in acute wards [2]. Patient education, when tailored and participatory, probably reduces both the rate of falls and the risk of falling [11]. Structured medication review can reduce fall-risk-increasing drug prescribing and is associated with lower fall incidence [17]. These findings converge on a coherent message: falls are preventable, but prevention requires a systematic, multi-domain approach that is tailored to the individual patient and embedded in the organizational context of care [6].

At the same time, the evidence base is characterized by important limitations. Heterogeneity across trials is substantial, reflecting differences in intervention content, intensity, setting, and implementation fidelity [2]. Many studies rely on quasi-experimental designs rather than randomized controlled trials, and the certainty of evidence for several intervention categories is moderate to low [5]. The effectiveness of specific components, particularly bed alarms and sensor-based technologies, is weaker and more uncertain than their widespread adoption might imply [20]. The absence of a clear effect in acute wards in meta-analyses raises questions about whether the multifactorial model, developed largely in subacute and rehabilitation populations, is optimally adapted to the pace and acuity of acute care [2]. These limitations do not undermine the case for nursing-led fall prevention; rather, they clarify the conditions under which it is most likely to succeed. Effective implementation requires attention to fidelity,

staff training and engagement, leadership support, and the integration of prevention activities into routine workflow [6]. It requires adequate nurse staffing to enable surveillance and assistance [19]. And it requires a culture of safety in which falls are treated as system failures to be learned from rather than individual failures to be punished [24].

Recommendations for Nursing Practice, Policy, and Research

For nursing practice, the evidence supports several priorities. First, risk assessment should be conducted using a validated tool appropriate to the patient population, and the results should trigger a differentiated, risk-tailored plan of care rather than a uniform bundle applied indiscriminately [8]. Second, multifactorial prevention programs should be implemented with attention to local context, with particular emphasis on the components with the strongest evidence: individualized risk assessment, tailored patient education, environmental safety surveillance, and structured medication review [2]. Third, technology-assisted monitoring should be viewed as an adjunct to, not a replacement for, direct nursing surveillance and patient engagement [20]. Fourth, post-fall management should be standardized and used as a learning opportunity for both individual care plan revision and unit-level quality improvement [24].

For policy, the evidence underscores the need for organizational investment in nursing staffing and in the infrastructure that supports fall prevention [19]. Fall prevention protocols that are not accompanied by adequate nursing resources risk becoming symbolic compliance rather than substantive safety improvement. Healthcare organizations should also invest in staff education and in the development of a safety culture that encourages reporting, root cause analysis, and continuous learning [6]. The World Falls Guidelines provide a useful framework for aligning hospital policy with evidence-based recommendations for assessment, intervention, and education [25]. For research, several gaps warrant attention. There is a need for well-powered randomized controlled trials in acute care settings, where the evidence for multifactorial programs is weakest [2]. There is a need for implementation research that identifies the strategies most effective in translating evidence-based fall prevention into sustained practice change [6]. There is also a need for studies that evaluate the independent contribution of specific components within multifactorial programs, so that resources can be allocated to the most effective elements [25].

CONCLUSION

Nursing interventions are effective in preventing patient falls during hospitalization, but their effectiveness is conditional rather than absolute. The strongest evidence supports multifactorial, individualized programs that address the interacting intrinsic and extrinsic determinants of fall risk, delivered by nursing staff with adequate time, training, and organizational support. Risk assessment, patient education, environmental modification, medication review, and post-fall management each contribute to a comprehensive prevention strategy, while the evidence for technology-assisted monitoring as a standalone intervention remains weak. The persistence of falls as a nursing-sensitive quality indicator reflects not a failure of nursing intervention but the complexity of the problem and the unevenness of implementation. The path forward lies in closing the gap between what the evidence shows can work and what is reliably enacted in the daily practice of hospital nursing.

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