Practice Gaps in Nursing Fall Prevention: A Compliance-Based Study on Protocol Adherence and Patient Safety

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Abstract- Patient falls continue to pose a significant risk to patient safety in acute-care settings, leading to injuries, functional decline and extended hospitalization. Despite the availability of fall-prevention protocols, variations in compliance among nursing staff remain a challenge. This study examined nurses' knowledge, awareness, frequent reliance on physical restraints (86.7%) emerged attitudes and practices related to fall-prevention measures and protocol adherence in adult inpatient wards at Sultan Ahmad Shah Medical Centre @ IIUM. A cross-sectional design was used, involving 60 registered nurses selected from medical and surgical wards. Data were collected using a structured questionnaire and analysed using descriptive statistical methods. Results showed that although nurses demonstrated foundational knowledge of fall-risk factors and strong motivation to prevent falls, notable misunderstandings persisted regarding fall definitions and the extent to which falls can be prevented. Awareness fluctuated during shifts, and only a small proportion consistently maintained full vigilance. While adherence to environmental checks, patient education and use of the Morse Fall Scale was high, as a significant practice gap, contradicting best-practice recommendations and highlighting the need for better alignment between knowledge and practice. The findings highlight the need for strengthened continuous training, improved multidisciplinary collaboration and better alignment between knowledge and practice. Addressing these gaps is essential to reducing preventable falls and improving patient safety outcomes.

Index Terms- patient safety, nursing practice, fall prevention, protocol adherence, hospital safety, compliance-based study

I. INTRODUCTION

Patient falls represent one of the most frequently reported safety incidents in hospital settings and remain a major cause of preventable harm affecting adults, especially those with mobility limitations or chronic illnesses. The World Health Organization identifies falls as a major public health issue, frequently contributing to fracture, head injuries, functional decline and extended length of stay [1]. International evidence shows that between 30% and 50% of inpatient falls are preventable when proper interventions are consistently applied [2].

Nurses play a vital role in identifying fall risks, educating patients, implementing preventive measures and ensuring safe mobilisation. Their continuous presence in clinical areas positions them as key contributors to preventing adverse events [3]. Research has shown that nurse-led interventions such as supervision, environmental modification and risk-based patient education substantially reduce fall episodes in acute care [4]. However, inconsistent protocol adherence remains a challenge, influenced by workload, documentation burden, knowledge gaps and competing clinical priorities [5].

In Malaysia, previous studies have reported moderate knowledge of fall-prevention strategies among nurses, but gaps persist in translating this knowledge into consistent practice due to heavy patient loads and fluctuating situational awareness [6]. Patient and family engagement further influences outcomes, emphasising the importance of communication and holistic care [7].

Despite established fall-prevention guidelines at Sultan Ahmad Shah Medical Centre @ IIUM, incidents continue to be reported. This highlights a need to examine existing gaps in knowledge, awareness and evidence-based practice. This study aims to evaluate nurses' fall-prevention knowledge, awareness, attitudes and practices, and to identify gaps that may affect protocol adherence and patient safety. Understanding these components provides insight into how well fall-prevention strategies are implemented in inpatient wards and helps determine areas where further support, training or system strengthening may be needed.

II. METHOD

A cross-sectional quantitative design was used to assess nurses' fall-prevention knowledge, awareness, attitudes and practices. This design is widely applied in patient-safety research as it captures real-time behaviour and protocol adherence without disrupting routine clinical work. Cross-sectional methods are commonly applied in nursing safety research as they capture real-time behaviours without interrupting clinical routines [3]. This design is also consistent with studies evaluating compliance and safety culture in hospital settings [5], [6].

The study was conducted at Sultan Ahmad Shah Medical Centre @ IIUM, focusing on Medical Male, Medical Female, Surgical Male, and Surgical Female wards. These units typically involve high-risk, mobility-limited patients, making them suitable for fall-prevention research [2]. Registered nurses with a minimum of three months' experience were included. Nurses in administrative or outpatient roles were excluded. Convenience sampling was used, consistent with recent hospital-based studies involving shift-based nursing staff [7].

Data were collected using a validated self-administered questionnaire adapted from tools widely used in fall-prevention studies [3]. The questionnaire measured demographic factors, knowledge of fall definitions and risk factors, awareness of fall-risk conditions, attitudes toward fall prevention, and compliance with safety practices. The attitudes section included items assessing nurses' perception of the seriousness of falls, their confidence in preventing falls, their motivation to participate in fall-prevention activities and their views on multidisciplinary involvement. The original instruments demonstrated strong internal reliability (Cronbach's α 0.72–0.94) [3].

Data were collected using Google Forms distributed through ward supervisors. Online distribution has been increasingly used for nursing research due to its flexibility and accessibility for nurses working rotating shifts [7]. Participation was voluntary and anonymous.

Data was analyzed using SPSS Version 29. Descriptive statistics were used to summarise all variables, consistent with approaches recommended for questionnaire-based patient-safety studies. [2].

Ethical approval was obtained from Open University Malaysia and the Research Ethics Committee of Sultan Ahmad Shah Medical Centre @ IIUM. Informed consent was integrated digitally. Confidentiality and voluntary participation were ensured throughout.

III. FINDINGS

A total of 60 nurses participated. Most were female (96.7%) and aged between 21 and 30 years (58.3%). A large proportion (81.7%) had between three and ten years of clinical experience, providing sufficient exposure to fall-risk situations.

Knowledge levels among nurses varied. Although many understood key fall-risk factors, certain misconceptions were identified. In particular, there was uncertainty regarding how many falls in hospitals could be prevented.

Table 1. Perception of Preventable Falls Among Respondents (n = 60)

Percentage of Preventable Falls	Frequency	Percent
0% of falls are preventable	8	13.3%
25% of falls are preventable	23	38.3%
50% of falls are preventable	22	36.7%
100% of falls are preventable	7	11.7%

Most nurses believed that only 25–50% of falls are preventable. This variation reflects misconceptions about the effectiveness of evidence-based fall-prevention strategies, consistent with previous research highlighting similar knowledge gaps among nursing personnel [5]

Nurses demonstrated moderate understanding of fall-risk factors, including mobility limitations, medication effects, and environmental hazards. However, only one-third correctly identified the internationally accepted definition of a fall. Misconceptions included beliefs that bed confinement reduces fall risk and that fall prevention lies solely with nurses rather than multidisciplinary teams. These gaps reflect similar findings reported in recent safety studies [5], [6].

Only 30% of nurses reported full (100%) awareness of fall-risk patients at all times during their shifts, while others showed fluctuating awareness. This pattern aligns with evidence that workload and multitasking reduce situational vigilance [5]. Nevertheless, attitudes were strongly positive: 86.6% viewed falls as a serious safety issue, 73.4% were confident in preventing falls, and 88.4% were motivated to participate in fall-prevention activities. A majority (78.3%) recognised fall prevention as a team responsibility, although a minority continued to view it as a nursing-only task. These findings show strong commitment but also highlight that positive attitudes may not always translate into consistent behaviour.

Nurses demonstrated strong adherence to fall-prevention practices. All respondents educated patients and used the Morse Fall Scale, while most supervised mobilisation, conducted environmental checks, and communicated risk changes. However, frequent use of physical restraints (86.7%) emerged as a significant concern, contradicting best-practice recommendations and highlighting an important practice gap.

Table 2. Falls-Prevention Strategies Used by Respondents (n = 60)

Strategy	Yes (%)
Patient education	100.0%
Physical restraints	86.7%
Supervision during mobilisation	98.3%
Environmental hazard checks	96.7%
Communication with team	96.7%
Poster reminders/orientation	98.3%
Use of Morse Fall Scale	100.0%
Frequent rounds	96.7%

Nearly all nurses are engaged in key fall-prevention practices, including patient education, hazard checks and supervision. However, the high reliance on physical restraints is problematic, as restraints may increase agitation and immobility rather than prevent falls [7]. This represents a major practice gap requiring targeted intervention.

IV. DISCUSSION

This study examined nurses' knowledge, awareness, attitudes and practices related to fall prevention in adult inpatient wards. The findings reveal several strengths in current nursing performance, accompanied by notable gaps that continue to influence the consistency and effectiveness of fall-prevention efforts. Understanding these gaps is important for improving patient safety outcomes across inpatient settings.

The results show that most nurses had a good understanding of the key fall-risk factors, including mobility problems, medication side effects and unsafe environments. This represents a strong foundation for safe clinical practice and mirrors recent evidence that nurses generally possess adequate knowledge of common fall contributors [3], [6]. Despite this, certain misconceptions remain evident. For instance, some nurses believe that keeping patients confined to bed helps reduce fall risk, although prolonged immobility is counterproductive as it leads to muscle weakness, reduced balance, and delayed recovery. This finding highlights the need for frequent updates on evidence-based fall-prevention strategies, particularly those related to safe mobilization. This finding aligns with wider research showing that nurses may know the risk factors but remain unsure about the most appropriate prevention methods, particularly

those related to safe mobilisation and activity promotion [3], [4], [7]. These misconceptions highlight the need for frequent updates on evidence-based fall-prevention strategies.

Awareness levels varied across the study participants. Although many nurses recognised falls as a significant safety concern, only a small proportion reported maintaining full awareness of fall-risk patients throughout their shift. Fluctuating awareness is commonly reported in busy clinical environments where workload, multitasking and continuous interruptions affect vigilance and decision-making [5], [6]. When situational awareness decreases, early warning signs may be missed, reducing opportunities for timely intervention. Although attitudes were mostly positive, this did not always translate into consistent or proactive monitoring.

Collaboration also emerged as an area needing improvement. Although most nurses acknowledged that fall prevention should involve multiple professions, some still viewed it as mainly a nursing duty. This perception limits contributions from physiotherapists, occupational therapists and physicians, each of whom provides essential support in mobility planning, equipment selection and risk modification. Recent research emphasises that patient falls can be reduced more effectively when prevention efforts are shared among disciplines rather than relying solely on nursing staff [7].

Nursing practice patterns showed several encouraging strengths. A large proportion of nurses reported using the Morse Fall Scale routinely, educating patients and families, supervising mobilisation and conducting environmental checks. These practices demonstrate a strong commitment to maintaining patient safety and reflect findings from international studies where consistent use of assessment tools significantly improves early recognition and intervention [3]. Despite these strengths, the reported high use of physical restraints (86.7%) remains a major concern. Restraints can increase agitation, immobility, and potential injury, and current guidelines discourage their use as a primary prevention method. Instead, alternatives such as closer supervision, use of alarms, or scheduled rounding are recommended. This high usage indicates a critical gap between established knowledge and daily practice that requires targeted training, clearer protocols, and organizational support. Current guidelines discourage restraint use as a primary prevention method, recommending alternatives such as closer supervision, use of alarms, or scheduled rounding [4], [7]. This indicates a gap between knowledge and practice that requires targeted training, clearer protocols and organisational support.

Overall, the findings depict a nursing workforce that is dedicated and knowledgeable but continues to face challenges in delivering fully consistent, evidence-aligned fall-prevention care. Misconceptions, fluctuating awareness, limited interdisciplinary collaboration and dependence on restraints highlight areas where improvement is needed. Strengthening continuous training, enhancing team-based prevention strategies and improving system-level support may help reduce preventable falls and enhance patient safety in adult inpatient wards.

V. CONCLUSION

This study highlights important strengths in nurses' fall-prevention practices, including consistent use of risk-assessment tools, patient education and environmental checks. These findings show that nurses are committed to ensuring patient safety and recognise the importance of preventing falls in inpatient settings. Despite these strengths, several gaps were identified. Misconceptions about fall definitions and preventability, fluctuating awareness during shifts and the high use of restraints indicate areas where practice does not fully align with evidence-based guidelines. These issues may reduce the effectiveness of fall-prevention strategies and increase avoidable risks for patients. Improving fall prevention requires ongoing training, stronger teamwork and clearer reinforcement of safe practices. Support from physiotherapists, occupational therapists and medical officers, together with organisational measures such as adequate staffing and regular audits, can help strengthen adherence to protocols. Addressing these gaps will contribute to safer ward environments and better patient outcomes.

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REFERENCES

[1] World Health Organization, *Falls: Key Facts*, 2021.
[2] Spoon, D., Gale, N., Young, L. et al., "Implementation strategies of fall-prevention interventions in hospitals," *BMJ Open Quality*, vol. 13, no. 4, 2024.
[3] Alsaad, S.M., Alabdulwahed, M., Rabea, N.M. et al., "Knowledge, attitudes and practices of nurses toward risk factors and prevention of falls," *Healthcare*, vol. 12, no. 4, 2024.
[4] Ojo, P. and Thiamwong, L., "Nurse-led fall-prevention interventions in acute care," *Clinical Nursing Studies*, vol. 10, no. 1, pp. 22–30, 2022.
[5] Turner, K., Hughes, C., O'Neill, K. et al., "Variation in fall-prevention practices across hospital units," *Journal of Patient Safety*, 2022.

[6] Lee, Y.M. and Liew, S.M., "Awareness and implementation of fall-prevention strategies in Malaysian inpatient settings," *BMC Health Services Research*, vol. 22, p. 814, 2022.
[7] Hill, A.M., Etherton-Beer, C., Law, L. et al., "Implementing falls prevention patient education in hospitals," *BMC Nursing*, vol. 23, p. 11, 2024.

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