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Research

Improving Compliance and Effectiveness in Fall Prevention

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Abstract

Background: Patient falls remain a persistent safety issue in hospitals, causing injury and prolonging hospitalization. Despite protocols, Wadi Al-Dawaser General Hospital Riyadh Region, Kingdom of Saudi Arabia, saw increased fall incidents in late 2024.

Aim: To enhance compliance with fall prevention protocols and reduce inpatient falls by 50% within nine months.

Methods: A hospital-wide quality improvement project was launched across MSW, ICU, PW, and OPD (July 2024–March 2025). Interventions included staff re-education, environmental audits, equipment readiness checks, and standardized fall risk assessment using the Morse Fall Scale.

Results: Fall rate reduced from 0.36 to 0.18 per 1,000 patient days (50% reduction). Total falls declined from 5 (Jul–Nov) to 3 (Dec–Apr). From February to April 2025, zero fall incidents were reported, with staff protocol compliance >90%.

Conclusion: Targeted interventions significantly improved fall prevention outcomes. Continued training, environmental vigilance, and real-time monitoring are essential for sustaining gains.

Keywords: Fall Prevention, Morse Fall Scale, Patient Safety, Nursing Protocol Compliance, Quality Improvement, Hospital Falls, Risk Assessment, Inpatient Safety

INTRODUCTION

Patient falls are one of the most frequent and preventable adverse events in hospital settings. They are associated with increased morbidity, extended length of stay, and higher healthcare costs. Despite established fall prevention protocols, an internal audit at Wadi Al-Dawaser General Hospital revealed gaps in staff compliance, documentation accuracy, and environmental safety. In 2024, six patient falls were recorded across various units, including MSW, ICU, PW, and OPD. Though statistically low (0.15 per 1,000 patient days), each incident resulted in minor injury, warranting immediate intervention.

Aim

To enhance staff compliance and reduce patient falls through structured training, standardized risk assessment, and environmental safety improvements.

Objectives

- Reduce patient falls by 50% by end of March 2025.
- Increase staff compliance with fall prevention protocols to ≥90%.
- Achieve ≥95% accuracy in fall risk assessments.
- Ensure zero falls resulting in moderate/severe injury.
- Provide fall prevention training to 100% of staff quarterly.
- Reduce fall rate to ≤0.1 per 1,000 patient days.
- Conduct quarterly audits and feedback reviews.

METHODOLOGY

Study Design

Prospective, hospital-wide quality improvement project.

Study Setting

Wadi Al-Dawaser General Hospital ,KSA– MSW, ICU, PW, and OPD.

Study Participants

All clinical nursing staff and hospitalized patients at risk of falling between July 2024 and March 2025.

Sample Size

~39,342 patient days in 2024; project focused on all fall incidents reported hospital-wide.

Intervention Process

- **Staff training** on fall prevention protocols.
- **Standardized documentation** using checklists.
- **Daily use of Morse Fall Scale**.
- **Environmental audits** and hazard mitigation.
- **Repair/replacement of fall prevention equipment**.
- **Monthly audits and feedback mechanisms**.

Timeline

Phase	Period
Project Launch	July 2024
Training & Data Collection	Aug–Oct 2024
Intervention Implementation	November 2024
Monitoring & Review	Dec 2024 – Mar 2025

Post-Intervention Assessment

- Compliance audits
- Trend analysis of fall rates
- Staff feedback and re-training

- Documentation reviews

Data Collection Tools

- Incident reporting forms
- Fall risk assessment checklists (Morse Scale)
- Audit tools and training logs

Data Analysis

- Fall rate calculated per 1,000 patient days
- Comparison of pre- and post-intervention metrics
- Graphical trend analysis

Ethical Considerations

- Approved by Nursing Improvement Administration
- No patient identifiers used
- Focused on system process improvement

RESULTS

Pre-Assessment

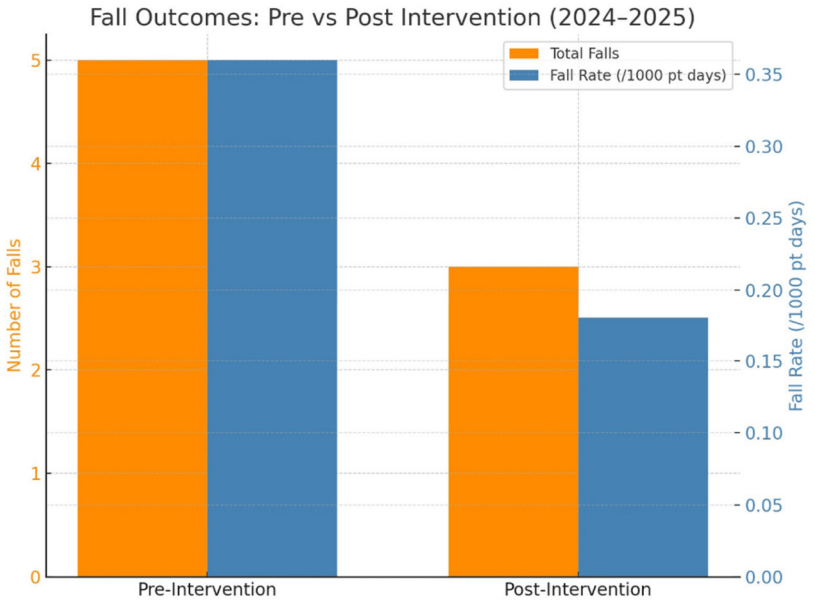
- 5 falls between July and November 2024
- Highest spike in November (2 falls, 0.6 per 1,000 patient days)
- Staff compliance with fall protocol: ~65%
- Documentation accuracy: ~58%

Post-Assessment

- 1 fall reported in December; **Zero falls** from **Feb–Apr 2025**
- Fall rate decreased to **0.18** from **0.36** pre-intervention
- Staff compliance: **>90%**
- Risk assessments: **~95% accuracy**

Statistical Analysis and Graphical Representation
Graph: Monthly Patient Falls and Fall Rates – 2024

- November recorded highest fall rate (0.6)
- Post-intervention, fall rate reduced by 50%
- Sustained zero-fall rate from February to April



INTERPRETATION OF RESULTS

- Interventions were **effective in reducing fall rates** and improving compliance.
- **Environmental improvements** and **equipment readiness** played a critical role.
- **Staff education and real-time monitoring** supported sustained behavior change.
- Graph trends and fall rate reduction demonstrate impact and ongoing improvement.

DISCUSSION

This quality improvement initiative demonstrates that structured interventions—training, standardized assessments, audits, and environmental modifications can lead to significant reductions in hospital falls. Multidisciplinary collaboration and active staff engagement were vital. The introduction of real-time dashboards and fall checklists helped promote accountability. The project's success validates the use of simple, targeted measures to improve complex patient safety issues.

CONCLUSION

Falls are preventable with consistent application of risk assessment and mitigation strategies. This project successfully reduced fall rates and enhanced staff compliance across multiple units. Sustaining these gains will require ongoing audits, refresher training, and a proactive culture of safety.

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