

Original Article

Impact of Timely Assessment for Risk of Fall by Using Morse Scale in Adult Medical & Surgical Unit of Tertiary Care Hospital in Pakistan

Shazia Khan^{1*}, Kashif Shahzad²

¹Indus Hospital, Pakistan.

²Agha Khan University Hospital, Pakistan.

*Corresponding Author: Shazia Khan; Email: shaziasardar80@gmail.com

Conflict of Interest: None.

Khan S., et al. (2024). 4(1): DOI: <https://doi.org/10.61919/jhrr.v4i1.492>

ABSTRACT

Background: Patient falls in healthcare settings are a significant concern, impacting patient safety and healthcare outcomes. The Morse Fall Scale (MFS) has been widely recognized as an effective tool for assessing fall risk among hospitalized patients. Despite its widespread use, there is a need for a comprehensive evaluation of its effectiveness, implementation challenges, and the perceptions of healthcare staff towards its utility.

Objective: This study aims to evaluate the effectiveness of the MFS in reducing patient falls in a tertiary care hospital and to assess healthcare staff's perceptions regarding its usability and impact on patient care.

Methods: A retrospective data analysis was conducted, examining fall events from July 2020 to December 2020, before the implementation of the MFS, and from January 2021 to May 2021, after its implementation. The study included all adult patients admitted to the medical and surgical units, excluding those from ambulatory care units and the emergency department. Staff perceptions were gauged through a survey assessing the ease of use, time efficiency, and effectiveness of the MFS in identifying high-risk patients. Data analysis utilized SPSS version 25 for statistical evaluation.

Results: The implementation of the MFS was associated with a significant reduction in fall rates, from a total of 9 falls in the six months prior to implementation to zero falls in the five months post-implementation. Survey results indicated that 89% of nurses found the MFS quick and easy to use, 63% reported that it took less than 3 minutes to complete an assessment, 98% found the scale easy to understand, 95% stated it helped identify high-risk patients, and 97% felt comfortable tailoring interventions based on the MFS scores.

Conclusion: The MFS effectively reduced fall rates in the hospital setting, with healthcare staff affirming its ease of use and effectiveness in identifying at-risk patients. These findings support the continued use and further refinement of the MFS as a critical component of patient safety strategies.

Keywords: Morse Fall Scale, patient falls, fall prevention, healthcare safety, risk assessment, tertiary care hospital, nurse perceptions, healthcare outcomes.

INTRODUCTION

The phenomenon of patient falls within hospital settings, particularly in adult medical and surgical units, presents a significant challenge to healthcare providers, necessitating the adoption of effective risk assessment strategies to mitigate this preventable event (1-3). The Indus Hospital & Health Network, situated in a region where the World Health Organization (WHO) in 2021 reported an alarming estimate of 684,000 falls occurring annually on a global scale, has identified an increasing trend in fall rates among its adult patient population (4-6). This statistic underscores the urgency of addressing fall prevention, especially considering that falls represent the second leading cause of unintentional injury fatalities worldwide, trailing only behind road traffic accidents. Notably, over 80% of these fatal falls occur in low- and middle-income countries, with South East Asia accounting for a significant 60% of the death toll. This demographic pattern is particularly concerning as the mortality rates from falls disproportionately affect adults over the age of 60 years (7-9).

A critical review of the literature reveals that the majority of in-hospital falls are attributable to the failure to adequately assess patients' risk of falling at crucial junctures, such as upon admission and at any point of significant change in the patient's condition (10, 11). For instance, a study published in the National Center for Biotechnology Information (NCBI) highlighted that the average age of patients who experienced falls was 63.4 years, with a notable prevalence of unassisted falls (79%) occurring predominantly in the patient's room (85%), during the evening or overnight hours (59%), and most frequently during ambulation (19%) (12, 13). The causative factors identified include advanced age, a history of falls within three months prior to admission, the presence of multiple medical diagnoses, altered mental status due to neurological deficits from either disease processes or medication effects, and compromised mobility and balance necessitating the use of ambulatory-assistive devices. These insights point to a higher risk of falls among the frail elderly population who rely on such devices for mobility (14, 15).

In response to this pressing issue, the Morse Fall Scale has been adopted as a pivotal tool for the timely assessment of patients at high risk of falls. This scale facilitates the identification of patients who require immediate and appropriate interventions based on their assessed risk level. The objective is to enhance patient safety by ensuring that preventive actions are taken promptly, thereby reducing the incidence of falls within the hospital setting. The implementation of the Morse Fall Scale represents a strategic approach to fall prevention, aiming to systematically evaluate risk factors and implement targeted interventions. This initiative reflects a broader commitment to improving the quality of care and safeguarding the well-being of patients by addressing one of the most prevalent yet preventable causes of injury in hospital environments (16, 17).

MATERIAL AND METHODS

The study conducted a comprehensive retrospective analysis of fall events spanning from July 2020 to December 2020, leveraging incident reports from the medical and surgical departments of the adult campus at The Indus Hospital. This initial period served as a baseline for evaluating the effectiveness of the Morse Fall Scale, which was subsequently implemented from January 2021 through May 2021. The inclusion criteria for this analysis encompassed all patients admitted to the adult medical and surgical units of the hospital's main campus, excluding cases from ambulatory care units and the emergency department. Additionally, incidents categorized as slips, trips, and near falls were omitted due to their underreported status (18, 19).

To assess the risk of falls, the Morse Fall Scale was introduced for inpatient evaluation. This implementation was underpinned by a multidisciplinary approach to education, targeting nursing staff through both group sessions at the unit level and individual instruction during clinical rounds. The importance of structured implementation to enhance nurses' knowledge and competency with the Morse Fall Scale, as advocated by Lim, Swee Geok, and Yam, Siew (2016), was a key focus. The introduction of fall risk bands for high-risk patients aimed to facilitate communication among healthcare workers, highlighting those in need of additional assistance (20-22).

Preventive measures, including the use of signage and educational interventions for patients and their families, were integral to the strategy. Education was emphasized for all patients, regardless of their Morse score, to foster compliance and empower patients and their families to mitigate fall risks. The development of educational pamphlets for patients and families was part of ongoing efforts to sustain the impact of these teachings, with materials currently pending final approval.

Documentation practices were also refined, with the introduction of a Nursing Care Plan (NCP) on the risk of fall in the Health Management Information System (HMIS), detailing preventive measures for high-risk patients. This initiative aimed to ensure continuous staff awareness and prompt intervention based on patients' fall risk assessments.

The study adhered to ethical standards consistent with the Declaration of Helsinki, including the protection of patient privacy and the ethical use of patient data. All data collection and analysis were conducted with respect to these principles, ensuring the integrity of the research process.

Data analysis was performed using the Statistical Package for the Social Sciences (SPSS) version 25, facilitating a rigorous examination of the impact of the Morse Fall Scale implementation on fall rates within the hospital. This analysis sought to quantify the effectiveness of the introduced measures in reducing the incidence of falls, comparing pre- and post-implementation periods to assess significant changes in fall rates (23).

The Quality Improvement & Patient Safety Department played a crucial role in the development of institutional policies related to fall prevention, overseeing the compliance of practices through quarterly audits. This collaborative effort underscored the institution's commitment to patient safety and the continual improvement of care practices.

RESULTS

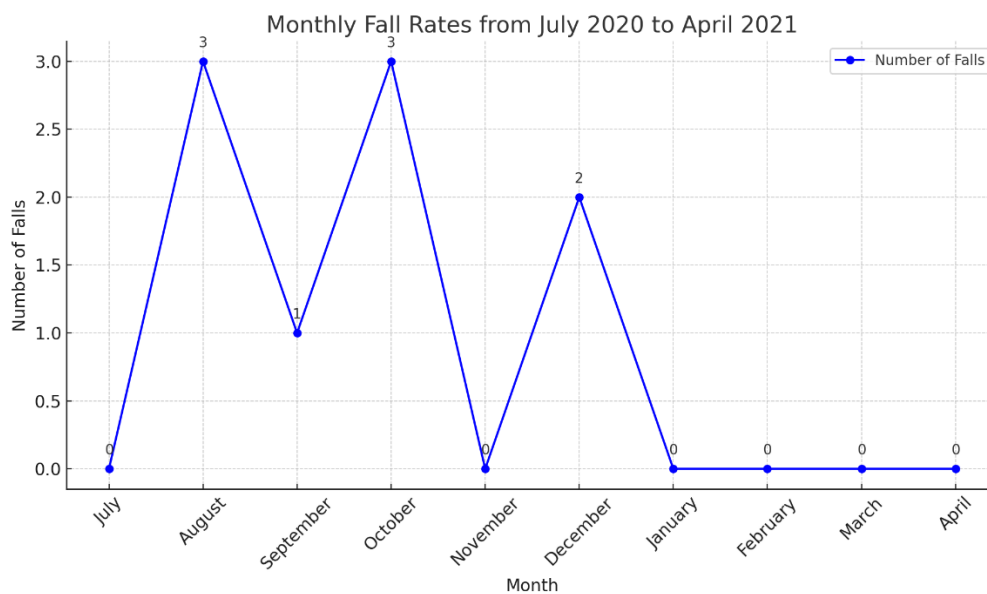


Figure 1 Monthly Fall Rates

The graph illustrates the monthly fall rates at The Indus Hospital's adult medical and surgical units from July 2020 to April 2021. Initially, the fall rates fluctuated, with three falls recorded in August, one in September, three again in October, none in November, and two in December. Remarkably, after the implementation of the Morse Fall Scale and associated interventions in January 2021, the graph shows a significant transition to zero falls for the subsequent months through April 2021. This clear downward trend from January onwards indicates the effectiveness of the fall prevention strategies, highlighting the importance of timely risk assessments and targeted interventions in reducing patient falls within the hospital setting.

DISCUSSION

The evaluation of the Morse Fall Scale (MFS) within the clinical setting underscores its utility as a straightforward and efficient tool for assessing patient fall risk. The endorsement by nursing staff, with 89% recognizing the scale as quick and easy to use, and 63% reporting that it took less than three minutes to rate a patient, highlights its practicality in fast-paced medical environments. Furthermore, the overwhelming majority of staff found the scale easy to comprehend (98%), effective in identifying high-risk patients (95%), and felt comfortable tailoring interventions based on patient needs (97%). These perceptions are critical in understanding the scale's widespread acceptance and implementation.

Recent research offers a deeper insight into the MFS's effectiveness and its reception among healthcare professionals. For example, Huang et al. (2021) acknowledged the scale's role in fall prevention, albeit with reservations regarding its cost-effectiveness, reflecting a nuanced perspective on its applicability (8). This view is complemented by Sardo et al. (2016), who noted the scale's particular efficacy in identifying at-risk populations, such as the elderly or those with prolonged hospital stays (19). Such studies reveal the scale's targeted utility, albeit with varying degrees of effectiveness across different patient demographics.

However, the implementation of the MFS is not without its challenges. Huang et al. (2021) questioned the scale's cost-effectiveness, citing a limited impact on fall reduction that did not justify the increased labor costs (8). This critique points to the necessity for a more strategic approach in applying the MFS, one that involves targeted interventions for high-risk patients to enhance its cost-efficiency and overall impact on fall prevention (12).

The competency of nursing staff in using the MFS effectively is also a subject of concern. Ramli et al. (2019) identified a knowledge gap among nurses, particularly those less experienced or with lower qualifications, in applying the scale accurately (16). This underscores the need for ongoing education and training to bolster the scale's utility in clinical practice (7, 24, 25).

Comparative analyses, such as the one conducted by Kim et al. (2021), provide additional layers of understanding by juxtaposing the MFS with other assessment tools like the Johns Hopkins Fall Risk Assessment Tool (10). Such comparisons shed light on the relative strengths and weaknesses of the MFS, suggesting that the selection of assessment tools can significantly influence fall risk prediction outcomes in acute care settings.

Recommendations for enhancing the MFS's implementation include the integration of additional fall risk predictors through machine learning techniques, which could refine its predictive accuracy and, by extension, the quality of patient care. This approach indicates a pathway toward optimizing the scale's application, ensuring it remains a vital component of patient safety protocols (8, 10, 12, 16, 19).

In reflecting on the Morse Fall Scale's application in clinical settings, it is evident that while the scale is highly regarded for its ease of use and effectiveness in identifying at-risk patients, its full potential is contingent upon addressing identified limitations. These include the need for targeted interventions for high-risk patients, comprehensive training for nursing staff, and the exploration of advanced predictive models to enhance its efficacy. The ongoing evaluation and adaptation of tools like the MFS are crucial in advancing patient safety and improving outcomes in healthcare settings.

CONCLUSION

The Morse Fall Scale (MFS) has demonstrated significant utility in assessing the risk of patient falls within healthcare settings, endorsed widely by nursing staff for its ease of use and effectiveness. However, its full potential hinges on addressing challenges related to cost-effectiveness, staff training, and the need for targeted interventions for high-risk patients. The scale's implementation and impact underscore the critical role of fall prevention strategies in enhancing patient safety and healthcare outcomes. Future directions should focus on refining the MFS through comprehensive training, integrating advanced predictive analytics, and tailoring interventions to optimize care delivery and mitigate fall risks. The evolution of fall prevention measures, including the MFS, is vital in the continuous improvement of patient care quality and safety across healthcare environments.

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