Review Article

Looking for a Psychiatric Fall Risk Assessment Tool

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Abstract

Patient falls are common in hospitals. Patients are usually assessed for falls upon admission to psychiatric units. A risk assessment must be specific to the population served. However, evidence to support the best tool for psychiatric inpatient population is lacking. Proper identification and precise assessment of individuals at risk are important components of fall prevention programs. The use of some fall assessment tools may place patients at risk, limiting the opportunity for increased intervention for high-risk patients. The purpose of this review was to identify various fall assessment tools to determine the best instrument for psychiatric inpatients. Recommendations and a comparison of selected fall risk assessment tools are listed in a table.

INTRODUCTION

Looking for a Psychiatric Fall Risk Assessment Tool

Patient falls are an extremely important topic of concern within the psychiatric academic and hospital communities leading to quality of life issues for the patient and legal issues for the health care providers. Comprehensive assessments of fall risk need to take place in healthcare organizations, with action taken to promote patient safety. Regulatory and professional agencies require the provision of patient safety education to staff to improve health outcomes. The Joint Commission [1] officials evaluate hospital staff education, patient teaching, and the effectiveness of fall reduction activities. The National Quality Forum, which is a quality improvement group, has emphasized the importance of patient fall prevention [2].

The purpose of risk assessment instruments is to allow healthcare professionals to measure the patients' intrinsic fall risk factors, although the tools may not be useful in assessing the patient's functional status [3]. Rutledge et al [4] reasoned the general failure to decrease fall rates in hospital settings might stem from the failure to consider the environmental context in the assessment, which Unsworth [5] suggested should include a patient's vision and sensory deficits.

Joanna Briggs Institute researchers found the hospital-based fall risk factor assessment tools ineffective in preventing falls because of lack of accuracy in identifying individuals at fall risk [6]. Laissez-faire type of safety planning may result in failure to accomplish fall reduction goals. Myers [6] listed 32 fall risk factor assessment tools, with most popular domains as the mental state, 29; unsteady gait, 27; history of falls, 25; and medication, 22. A risk assessment must be specific to the population served [1].

Preventive care enacted by Congress included provision for educational services as well as programs designed to reduce risk factors and improve physical activity, weight loss, self-management, and fall prevention [7]. Most psychiatric patients have compromised learning ability and cognitive status and could find the recommendations in the Federal Register difficult to follow because of cognition problems [7]. Unsworth [5] insisted assessments of falls should include a review of intrinsic factors such as past medical history, mobility, medications, vision, footwear, and lower extremity functioning, as well as extrinsic factors such as slipping, tripping, and other environmental hazards in preventing falls.

For vulnerable individuals, safety assessments and functional ability for issues such as prevention of falls need to take place on a regular schedule [7]. Tsai et al [8] asserted proper identification and precise assessment of individuals at risk as important components of fall prevention programs. While authorities have established no standardized tool for fall risk, [9] assessment tools combining multiple fall risk factors may be better predictors of fall risk [3].

Fall prevention programs consist of prediction instruments for identifying fall risk and recommendations for intervention. Morse [9] claimed many of the fall prediction instruments in use had not been successful in identifying fall risk accurately. Researchers have not tested many fall detection instruments used in the clinical areas in the right setting. Morse [9] warns improper use of fall scales in the clinical area may exacerbate patient fall risk and injury.

Examples of acclaimed evidence-based fall risk assessment tools available are the Hendrich II Fall Risk Model; [10] the Morse

Fall Scale; [9] the Schmid Fall Risk; [11] and the Saint Thomas Risk Assessment Tool for Falling Elderly Inpatients (STRATIFY) [12]. Most recent instruments in the process are the Edmonson Psychiatric Fall Risk Assessment Tool (EPFRAT); [13] and the Wilson Sims Fall Risk Assessment Tool (WSFRAT) [14]. The latter two are recent and specific to psychiatric patients.

Hendrich II Fall Risk Model

In a case-control study, Hendrich et al [10] investigated fallers and non-fallers to test the Hendrich II fall risk model in an acute care center. Hendrich et al. investigated more than 600 fall contributing factors, which they used in the development of an assessment model for fall risk and determined the likelihood of falls increased with the increase in risk factors. The Hendrich II model includes assessment of elimination, dizziness, male gender, seizure medications, depression, cognitive status, and benzodiazepines [10]. The get-up-and-go assessment includes the capability to rise in an instant without losing balance, the capability to push up in one or multiple attempts, and the lack of capability of rising without help. The Hendrich II Model covers several risk factors pertinent to psychiatric patients but does not include serious issues, such as the history of falls [3] or a combination of psychotropic medications [8,15].

Morse Fall Scale

The Morse Scale is a fall assessment tool intended for use in acute medical-surgical units, but professionals have not validated its use in the psychiatric inpatient population [4]. Healthcare staff members use the Morse fall scale to assess fall history, mental status, intravenous intervention, walking aids, gait, and secondary diagnosis [9]. Healthcare professionals in hospitals worldwide have used the Morse tool for many years. An advantage of the Morse scale is the assessment takes less than a minute to complete.

The levels of risk in the Morse tool provide caregivers appropriate fall prevention interventions to implement. Though some psychiatric units use the Morse tool, intravenous therapy included as part of the assessment is not a routine treatment in a psychiatric unit, making the tool unsuitable. All other factors in the assessment tool apply to psychiatric patients on the inpatient psychiatric unit. Tzeng [16] found in a literature search that toileting was an important factor contributing to falling, which the Morse fall tool does not capture. In one study, Knight and Coakley [15] found, despite following the fall risk protocol with the use of Morse Fall Scale in a geriatric psychiatric facility located in the northeastern United States, the falls per 1,000 patient days remained at 4.83, which was higher than in the rest of the hospital units.

Schmid Fall Risk Model

Schmid [11] won the Federal Nursing Award in 1989 for the Schmid fall risk model, which is a comprehensive fall prevention tool. In the Schmid tool, first developed in a government hospital, Schmid highlighted fall risk care plans as a fall prevention initiative. The number of patient falls in the government hospital in 1989 was 41 for 10,000 patient days, but implementing the Schmid program reduced the fall rate by about 20% [11]. The Schmid risk assessment tool includes the history of falls, mental status, mobility, medications, and elimination. Even though Schmid did not indicate the use of the tool for psychiatric inpatient use, the researchers claimed the five factors measured were fair indicators of fall risk in the psychiatric population [11].

Saint Thomas Risk Assessment Tool for Falling Elderly Inpatients

The STRATIFY is a one-time initial predictor of patient falls to use in hospitalized geriatric assessment and rehabilitation units [12]. The STRATIFY is a five-point fall prediction tool, but the hospital-wide use of the tool must take place with caution. The tool is simple to use and requires about a minute to complete. Factors assessed with the STRATIFY tool are agitation, fall history, visual problems, elimination, and combined mobility and transfer score. Unlike in other assessment tools, agitation, and visual impairment are present in the STRATIFY tool, but medications, an important risk factor for psychiatric patients, is not a factor [17].

Edmonson Psychiatric Fall Risk Assessment Tool

Edmonson et al [13] developed an assessment tool specific to the psychiatric inpatient population and found initial testing of EPFRAT to have higher sensitivity in assessing fall risk in the psychiatric inpatient population. Edmonson et al. applied the Morse Scale and the EPFRAT retrospectively to patient charts, resulting in a Morse Scale sensitivity of 0.49 and the EPFRAT sensitivity of 0.63. The specificity of the Morse Scale was 0.85, and the EPFRAT was 0.86, indicating a very little statistical difference. The EPFRAT assessment includes nine domains: the history of falls, sleep, nutrition, ambulation, diagnosis, medications, elimination, mental status, and the age of the patient. Edmonson et al. recommended additional testing to determine reliability and validity [13].

Edmonson et al [13] stated psychiatric inpatients face unique fall risk factors, such as malnutrition, poor judgment, sleep problems, psychosis, depression, agitation, anxiety, medication, and the problems created by the ambulatory nature of the illness. In the Edmonson et al. study, the increase in medications within a 24-hour period showed increased incidence of patient falls during that period. Orthostatic hypotension is a common side effect of psychotropic medications. Sleep disturbance comprising four hours or less of consecutive sleep was another fall risk factor found in the Edmonson et al. study. Of the 50 patients who fell in the Edmonson et al. study, 24 patients had consumed little or no fluid in the 24 hours before the incident [13].

Wilson Sims Fall Risk Assessment Tool

The WSFRAT was developed in Michigan for admission assessment in an adult inpatient psychiatric unit [14]. The tool is designed for use by the staff nurse. A column is included for the clinical judgment to identify if the patient is a fall risk. Factors assessed with the revised WSFRAT include age, mental and physical status, elimination, impairments, gait, history of falls, specific medications, and detox protocol. Gender and diuretics

were included in the initial tool, however, with the removal of these two factors, content validity of WSFRAT =.90 [14]. In a comparative study of the evaluation of fall risk assessment tools for psychiatric fall prevention using Hendrich II and WSFRAT, the sensitivity of the tools were equal [18]. As with any assessment tool, further research using the tool and studies comparing with other tools will be beneficial.

Proprietary or Homegrown Fall Risk Assessment Tools

Some risk management team members may develop proprietary risk assessment tools for the organization. Use of an assessment tool not tested for validity and reliability can be problematic [6,19]. The use of some of the fall assessment tools may place too many patients at risk, causing the fall prevention program to lose significance [6] Despite all the tools, assessments, interventions, and nursing research related to patient falls, none has contributed significantly to patient safety [9]. A comparison of the fall risk assessment tools is listed in Table 1.

CONCLUSION AND RECOMMENDATIONS

When measurement tools are reliable, they should produce consistent results in fall risk prediction [20]. Fall risk assessment

tools may have reliability but are often inaccurate and are not useful to distinguish who may not fall, and healthcare specialists cannot use them uniformly in various specialties. The use of some fall assessment tools may place large percentages of individuals at high risk, limiting the opportunity for increased intervention for actual high-risk patients [6]. The use of an assessment tool not tested for validity and reliability can exacerbate patient fall risk and injury.

No hospital should have a single scale to assess patients in all specialties. The assessment tool should depend on the type of patient population served. Sensitivity and specificity testing will help determine, which tool to use for the specialty. Sensitivity is the ability of the scale to identify accurately who is a fall risk and specificity is the ability of the scale to identify who is not a fall risk. Upon sensitivity-specificity testing, whichever tool yields the highest results will best fit the hospital specialty. Local validation is crucial in determining the right tool. The hospital quality and risk management departments should be open to allow retrospective and onsite studies to determine, which tool is best for the specific patient population served.

No perfect instrument exists, however, the best fall risk assessment tool for psychiatric adult and geriatric patients based

Table 1: Comparison of Selected Fall Risk Assessment Tools.

	Risk assessment tool	Original population designed for	Study	Result	Recommendation for psych
1	**WilsonSims Fall Risk Assessment Tool**	Psychiatric populations	In a 12-bed adult psych unit, 50 patients generated 319 observations [18]	Sensitivity 100% Specificity 63.1%	Allows a comprehensive psychiatric fall assessment including nurses clinical judgment
2	**Edmonson Psychiatric Fall Risk Assessment Tool**	Psychiatric populations	Compared Edmonson scale to Morse scale in 138 patient records [13]	Sensitivity of Morse 0.49 and Edmonson 0.63	Allows a comprehensive psychiatric fall assessment but does not include a field for nurses clinical judgment
3	**Hendrich II Fall Risk Model**	Acute care environments	In a 12-bed adult psych unit, 50 patients generated 319 observations [18]	Sensitivity 100% Specificity 67.8%	Although the scale leaves out variables for psychiatric population, it is better than using proprietary risk assessment tools
4	**Schmid Fall Risk Model**	General hospital	102 patients who fell compared to 102 patients who did not fall in a general hospital after 12 months of the institution of the fall prevention program using the Schmidt model [11]	Falls reduced to 20% lower than the previous year	Although not indicated for psychiatric inpatient use, the factors measured are fair indicators of fall risk in the psychiatric population
5	**Morse Fall Scale**	Med-surg units	Morse fall scale was introduced in several specialties across the hospital [15]	Falls per 1000 patient days remained high (4.83) in geriatric psychiatry, compared to other specialties	A reliable scale for general hospital areas including adult psychotic patients but not for gero-psychiatric patient population
6	**Saint Thomas Risk Assessment Tool for Falling Elderly Inpatients**	Elderly inpatients	The study was in a 24-bed geriatric adult rehab unit with the mean age during the study was 81 years. 432 assessments were collected [12]	2 years prior fall rate 9.8 for 1000 bed days. Falls during study period 13.4 per 1000 bed days	Meds are not part of assessment, which is a major factor for both general and geriatric psych patients
7	**Proprietary Risk Assessment Tools**	N/A	Use of an assessment tool not tested for validity and reliability can be problematic [6,19]	N/A	The use of some of the homegrown assessment tools may place too many patients at risk, causing the fall prevention program to lose significance [6]

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on this research are the Wilson Sims and the Edmonson scales. The major difference in these two being the inclusion of the nurses judgment in the Wilson Sims scale. Sometimes the clinical judgment of an experienced professional is just as good as the results from a fall prediction tool [21].

REFERENCES

1. The Joint Commission. The Joint Commission accreditation program: Hospital national patient safety goals. 2010.

2. Spetz J, Jacobs J, Hatler C. Cost-effectiveness of a medical vigilance system to reduce patient falls. Nursing Economic. 2007; 6: 333-338.

3. Robey-Williams C, Rush KL, Bendyk H, Patton LM, Chamberlain DD, Sparks T. Spartanburg Fall Risk Assessment Tool: A simple three-step process. Applied Nursing Research. 2007; 20: 86-93.

4. Rutledge D, Donaldson N, Pravikoff D. Update 2003: Fall risk assessment and prevention in hospitalized patients. Online Journal of Clinical Innovation. 2003; 6: 1-55.

5. Unsworth J. Falls in older people: The role of assessment in prevention and care. British Journal of Community Nursing. 2003; 8: 256-262.

6. Myers H. Hospital fall risk assessment tools: A critique of the literature. International Journal of Nursing Practice. 2003; 9: 223-235.

7. Naqvi F, Lee.S, Fields SD. An evidence-based review of the NICHE guideline for preventing falls in older adults in an acute care setting. Geriatrics. 2009; 64: 10-13.

8. Tsai Y, Witte N, Radunzel M, Keller M. Falls in a psychiatric unit. Applied Nursing Research. 1998; 11: 115-121.

9. Morse J. The safety of safety research: The case of patient fall research. Canadian Journal of Nursing Research. 2006; 38: 74-88.

10. Hendrich A, Bender P, Nyhuis A. Validation of the Hendrich II Fall Risk Model: A large concurrent case/control study of hospitalized patients. Applied Nursing Research. 2003; 16: 9-21.

11. Schmid NA. Reducing patient falls: A research-based comprehensive fall prevention program. Military Medicine. 1990; 155: 202-207.

12. Coker E, Oliver D. Evaluation of the STRATIFY falls prediction tool on a geriatric unit. Outcomes Management. 2003; 7: 8-14.

13. Edmonson D, Robinson S, Hughes L. Development of the Edmonson psychiatric fall risk assessment tool. Journal of Psychosocial Nursing & Mental Health Services. 2011; 49: 29-36.

14. Kruszewski A, Killeen M, Fettes S, Wilson S, Sims K. Content validity of Wilson-Sims Falls Risk Assessment Tool.

15. Knight M, Coakley C. Fall risk in patients with acute psychosis. Journal of Nursing Care Quality. 2010; 25: 208-215.

16. Tzeng H. Understanding the prevalence of inpatient falls associated with toileting in adult acute care settings. Journal of Nursing Care Quality. 2010; 25: 22-30.

17. Blair E.W, Gruman C. Falls in an inpatient geriatric psychiatric population. Journal of the American Psychiatric Nurses Association. 2006; 11: 351-354.

18. Van Dyke D, Singley B, Speroni K.G, Daniel M.G. Evaluation of fall risk assessment tools for psychiatric patient fall prevention. Journal of Psychosocial Nursing. 2014; 52: 30-35.

19. Healey F. A guide on how to prevent falls and injury in hospitals. Nursing Older People. 2010; 22: 16-22.

20. Rubin A. Practitioner's guide to using research for evidence-based practice. Hoboken, NJ: Wiley. 2008.

21. Wilson SC, Fettes S, Sims K. Gravity: It's not a suggestion—It's the law! The development of the Wilson Sims Psychiatric Fall Risk Assessment Tool. Journal of the American Psychiatric Nurses Association. 2014; 20: 83.