The Modified Humpty Dumpty Falls Scale in Predicting Pediatric Falls

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Background

The Joint Commission, Institute for Healthcare Improvement and other patient safety organizations have long recognized the importance of decreasing falls in hospitals. Falls are a significant patient safety risk that occurs across the lifespan. A large body of evidence exists regarding the validity of falls risk tools in the adult populations, such as the Hendrich II and Morse scales (Hendrich, 2007; Morse, 2006) However, there is limited validity of these tools in the pediatric population (Razmus, 2006; Hill-Rodriguez, Messmer, 2009). Children's Mercy Hospitals and Clinics chose to evaluate outcomes of pediatric falls risk assessments when using the Humpty Dumpty Scale™.

Methods

This study examined the sensitivity and specificity of the Humpty Dumpty Scale™ risk score in 76 patients who fell compared to those that did not fall. The Humpty Dumpty Falls Scale risk score was applied to all patients who fell during an 18 month period. The same scale was applied to a randomly sampled control group of 150 patients who did not fall during the same timeframe.

Humpty Dumpty Scale™

Age	<3	4
	3-7	3
	7-10	2
	>13	1
Gender	Male	2
	Female	1
Diagnosis	Neurological Diagnosis	4
	Alterations in Oxygenation	3
	Psych / Behavioral	2
	Other Diagnosis	1
Cognitive Impairments	Not aware of limitations	3
	Forgets limitations	2
	Oriented to own ability	1
Environmental Factors	History of Falls or Infant-Toddler placed in bed	4
	Pt uses assistive devices or Infant-toddler in crib	3
	Patient placed in bed	2
	Outpatient area	1
Response to Surgery / Sedation Anesthesia	Within 24 hours	3
	Within 48 hours	2
	More than 48 hours/None	1
Medication Usage	Multiple usage of: Sedatives (excluding ICU patients sedated and paralyzed) Hypnotics Barbiturates Phenothizines Antidepressants Laxatives/Diuretics Narcotics	3
	One of the meds listed above	2
	Other medications/None	1
	Total Score	

Results / Outcomes

Results indicate that the Humpty Dumpty Scale™ has a sensitivity of 75% and a specificity of 34% at a cut-point of 11. This means the Humpty Dumpty Scale™ identifies pediatric patients at risk for falling and who actually fall 72% of the time. The tool over predicts patients at high risk, but do not fall. This could be due to the implementation of interventions to prevent falling when a patient is identified at high risk.

Modification of the Tool

Over a two year period, our population did not show a difference in the falls related to gender. We modified the tool to examine the sensitivity and specificity without the gender. However, the results were similar: the modified Humpty Dumpty Scale™ has a sensitivity of 79% and a specificity of 26% at a cut point of 9.

Lessons Learned

Using these tools as part of pediatric assessment stresses the need for nurses' best clinical judgment which remains a valuable resource in decreasing fall incidence and related injury. Identifying patients at-risk for falls ensures that all disciplines, parents and visitors increase their awareness of patient injuries in providing safe, noninvasive care. Preventing falls in pediatric populations is challenging due to the unpredictability of falls related to a child's age, cognition, growth and development. The modified Humpty Dumpty Scale assists the nurse in identifying those patients that need additional attention.

FALL RISK

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