Can measures of postural stability, functional mobility, community ambulation and balance confidence differentiate fallers at discharge from rehabilitation? A prospective observational study

Nancy Low Choy¹,²
¹Australian Catholic University, Australia
²The Prince Charles Hospital, Australia

This study investigated performances on clinical measures of postural stability, functional mobility, community ambulation, and balance confidence predicted falls and their context (indoors or outdoors) at discharge from rehabilitation. An observational study involved adults (n=249; mean age 69) completing rehabilitation (fallers, debilitated adults, neurological or vestibular disorders). Measures included postural stability on firm/foam surfaces (feet apart/together, eyes open/closed), Timed Up and Go (TUG) test, Functional Gait Assessment (FGA) and Activities Balance and Confidence Scale Short-form (ABC_6) with a fall dairy recording fall context. 68 (27%) adults reported 43 indoor and 25 outdoor falls. Age did not differentiate non-fallers (n=181; age 67.8±15.2) from outdoor (age 71.2±12.8) or indoor fallers (age 72.7±13.6). Clinical tests did not differentiate outdoor fallers from non-fallers (p>0.05). Indoor fallers were significantly more likely to fail stability tests on foam (eyes open and closed), walk significantly slower (mean difference 11-13s, p<0.05); score lower on the FGA (mean difference 5.2±1.8 to 6.4±1.2 points; p<0.01) and report reduced confidence at discharge (mean difference 24±6 points; p=0.001) than both non-fallers and outdoor fallers. Sensitivity of FGA and ABC_6 for falls was high (FGA 75%; ABC_6 70%), although specificity was lower (50-55%), and poor for TUG. Clinical measures are more predictive of indoor falls with significant and clinically important differences between indoor fallers and outdoor fallers as well as non-fallers. Understanding outdoor fallers and modifiable characteristics and behaviours is required to inform education and pre-emptive intervention as falls are being experienced as people engage in outdoor activities following rehabilitation.

Nancy.LowChoy@acu.edu.au