

A Comparison of the Falls Efficacy Scale-International with Berg Balance Scale to evaluate the risk of falls in post stroke patients

Abstract

Falling is the leading medical complication in patients with all stages of stroke. The present study was carried out to predict the risk of falling in patients with stroke for evaluating the agreement between the FES-I and BBS balance measures and to establish the strongest scale for measuring risk of falls in clinical practice to reduce the time spent in clinics. The Data of the 50 patients with stroke of age ≥ 40 years with ≥ 6 months post stroke duration were collected. Kappa measure of agreement and Intraclass Correlation Coefficient (ICC) were used for determining the agreement between the FES-I and BBS balance measure. Multiple logistic regression (LR) models analysis were done for adjusting the falling history with the age groups on BBS. The falling histories over the last six months on BBS measure were significant ($P = 0.029$). The Symmetric Measures of Kappa for determining the agreement between FES-I and BBS was -0.466. Only 32% (16) patients with stroke had agreement about status of falling which is indeed a low agreement. The ICC was -0.769 (-77%) with range between -0.862 and -0.626. LR analysis on BBS found considerable relationship about the falling history over the last six months with the age groups although these relations were not statistically significant. The Odds Ratio (OR) for BBS by LR analysis for the history of falls over the last six months was 2.859 with 95% CI (with a range of 0.713 to 11.462) with a P-value of 0.138. The OR for the age group of 50-64 years was 2.876 with 95% CI (with a range of 0.502 to 16.490) with a P-value of 0.236. The OR for the age group of >64 years was 5.263 with 95% CI (with a range of 0.729 to 38.010) with a P-value of 0.100. The Kappa and ICC measures declared that, there is a lower to moderate agreement between FES-I and BBS to predict the risk of falls, moreover patients with stroke have rational BBS scores to predict the risk of falls as compared to FES-I. The LR analysis was also found considerable relation about the falling histories with the age groups on BBS.

Key Words: Falls Efficacy Scale-International (FES-I), Berg Balance Scale (BBS), Stroke, Risk of fall.