

Comparison of Mini-BESTest versus Berg Balance Scale to Evaluate Balance Disorders in Parkinson's Disease

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Abstract : The purpose of this study was to explore the usefulness of the Mini-BESTest compared to the Berg Balance Scale in evaluating balance in people with Parkinson's Disease (PD) of varying severity. Evaluation were done to obtain (1) the distribution of patients scores to look for ceiling effects, (2) concurrent validity with severity of disease, and (3) the sensitivity & specificity of separating people with or without postural response deficits. Methods and Material: Seventy-seven(77) people with Parkinson's Disease were tested for balance deficits using the Berg Balance Scale, Mini-BESTest. Unified Parkinson's Disease Rating Scale (UPDRS) III and the Hoehn & Yahr (H&Y) disease severity scales were used for classification. Materials used in this study were case record sheet, chair without arm rests or wheels, Incline ramp, stopwatch, a box, 3 meter distance measured out and marked on the floor with tape [from chair]. Statistical analysis used: Multiple Linear regression was carried out of UPDRS jointly on the two scores for the Berg and Mini-BESTest. Receiver operating characteristic curves for classifying people into two groups based on a threshold for the H&Y score, to discriminate between mild PD versus more severe PD. Correlation co-efficient to find relativeness between the two variables. Results: The Mini-BESTest is highly correlated with the Berg ($r = 0.732, P < 0.001$), but avoids the ceiling compression effect of the Berg for mild PD (skewness -0.714 Berg, -0.512 Mini-BESTest). Consequently, the Mini-BESTest is more effective than the Berg for predicting UPDRS Motor score ($P < 0.001$ Mini-BESTest versus $P = 0.72$ Berg), and for discriminating between those with and without postural response deficits as measured by the H&Y (ROC).

Keywords : balance, berg balance scale, MINI BESTest, parkinson's disease

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