Effect of Visual and Auditory Cues on Risk of Fall and Gait Parameters in Parkinsons

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Abstract

Introduction: Parkinson's disease (PD) is a progressive neurodegenerative disorder. Recent research has explored using visual and auditory cues to improve gait and reduce fall risk in PD. With its meticulous methodology, this study investigated the effect of aural and visual cues on gait and balance in patients with PD.

Methods: A total of 20 samples diagnosed with idiopathic PD (Hoehn and Yahr stages I to II) were recruited and allocated into two groups: a conventional group and an experimental group. The sampling method was convenience sampling. This study lasts 45 minutes per session, 3 days a week, for 6 weeks. The conventional group will receive traditional gait training, including mirror feedback, sit-to-stand, and walking in parallel bars. The experimental group will receive visual and auditory cues focusing on the risk of falls and gait parameters in PD. The Visual cues consisted of different colour tapes placed along the walkway at each subject's calculated normalized step length. The subject will be asked to step on it to initiate gait. The auditory cues will focus on a specified cadence to continue walking.

Results: The results indicate statistically significant differences between the groups for all outcome measures: TUG DIFF ($p = .001$), STEP LENGTH_DIFF ($p = .000$), CADENCE DIFF ($p = .000$), and STRIDE LENGTH DIFF ($p = .000$).

Conclusion: The study's findings concluded that the Experimental Group outperforms the Conventional group in terms of gait parameters and fall risk in PD.