THE RELATIONSHIP BETWEEN COGNITIVE FUNCTION AND DUAL TASK GAIT PERFORMANCE IN PEOPLE WITH A VESTIBULAR DISORDER VS ADULT HEALTHY CONTROLS

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The purpose of the current study was to investigate the relationship between the dual task gait performance and the cognitive function domain in patients with clinically diagnosed vestibular disorders. Authors hypothesized that cognitive type of tasks would have more impact on Functional Gait Assessment (FGA) than motor tasks and poorer cognitive function scores would affect single and dual FGA performance. In order to investigate these hypotheses, 40 persons with a vestibular disorder were tested and compared with 40 healthy controls for single and dual task gait and their cognitive function. Both groups performed the single FGA and repeated the FGA further three times with concurrently performed numeracy (FGAN), literacy (FGAL) and motor tasks (FGAM). The cognitive skills were tested using the Cambridge Neuropsychological Test Automated Battery (CANTAB) software. Mann-Whitney U test analysis showed a significantly poor performance in the patient group for all four tests (p=0.000) with lower means scores. The addition of a dual task led to a marked reduction in FGA performance in both groups (p = 0.000) but had no significant difference in the dual task cost. Further, significant correlations were identified between cognitive function scores and both single and dual task FGA performances in the patient group. Results indicate that the addition of a cognitive type of dual-task can affect more on the functional performance than a motor task in both vestibular patients and healthy persons. But the vestibular patients have significantly poorer performance in both single and dual task performances compared to the healthy. Moreover, these poor single and dual-task performances are related to poor skills in the cognitive function domain.

Keywords : Vestibular, Dual-Task, Cognitive Function