Abstract

Cognitive impairment is considered as essential feature of non-motor symptoms in Parkinson’s disease (PD). It is a result of underlying pathological processes in the brain of PD patients and it leads to decreased quality of life. In this thesis an analysis of the structure and profile of cognitive impairment is presented with special emphasis on executive functions and memory. We take diagnostic entities developed for the description of PD cognitive spectrum such as mild cognitive impairment (PD-MCI) and dementia (PD-D) as examples of heterogeneity and different severity of cognitive impairment in PD. However, neuropsychological methods in Czech version that would measure these diagnostic units were not adequately validated. In the experimental part we test a hypothesis, if gait disorder with falls in PD is interconnected with cognitive impairment, and if PD-fallers have more severe cognitive deficit than PD-non-fallers.

On the basis of nine validity or normative data studies we show psychometric properties and clinical utility of several basic neuropsychological methods in the Czech population for memory (Rey Auditory Verbal Learning Test, California Verbal Learning Test, Second Edition, Memory For Intentions Screening Test and Enhanced Cued Recall Test), sustained attention and executive functions (Trail Making Test), activities of daily living (Functional Activities Questionnaire) and general cognitive functioning (Montreal Cognitive Assessment). In the experimental part we document that PD-fallers are more often demented than PD-non-fallers and that their upper limbs motor deficits in the Grooved Pegboard Test are intertwined with their lower limbs gait disorder and falls.

These results reveal a strong relation between the progression of the axial deficits (gait disorder with falls) and more severe cognitive impairment in PD-fallers group. Moreover, we introduce several basic methods with robust statistical data and detailed psychometric analyses into the neuropsychological assessment of PD in the Czech Republic. These tests are helpful when estimating level of cognitive functioning not only in PD but in neurodegenerative diseases in general.