

Abstract Aim:

The purposes of the study were: verification of the anterior attentional system functioning (energization, monitoring, task-setting) in people with Parkinson's disease divided into three groups: (1) without cognitive problems, (2) with mild cognitive impairment, (3) with mild dementia; assessing the relationships between energization impairment and apathy; assessing anosognosia correlates; verification of associations between subtypes of mild cognitive impairment (executive impairment vs others) and anterior attentional system functioning as well as the level of apathy and anosognosia; assessing of relationship between anterior attentional system, anosognosia, apathy and feeling of burden and quality of life in Parkinson's disease patients' caregivers. Methods: This cross-sectional research were divided into two stages – neurological and neuropsychological assessment. Recruitment for the study lasted from February 2020 until April 2023. Data collection was completed in May 2023. The following research tools were used: UPDRS questionnaire in neurological assessment; ROBBIA reaction times measurement, neuropsychological tests, anosognosia and apathy questionnaires during neuropsychological diagnosis, as well as tests measuring caregivers' functioning. Based on the results obtained in the neuropsychological diagnosis patients were divided into three groups: (1) without cognitive problems, (2) with mild cognitive impairment, (3) with mild dementia. The results obtained by the three groups of patients were compared with comparison group's outcomes, and then correlated with quality of life and caregivers' burden. Results: Out of 123 enrolled patients with Parkinson's disease, 96 patients (45 without cognitive problems, 39 with mild cognitive disorders, 12 with mild dementia) with their caregivers and 46 healthy controls were included to the final analysis. Energization decline is common in patients with PD regardless of their cognitive status. Monitoring and task-setting disorders were observed in patients with mild dementia. Results of intercorrelations between 7 energization disorders and apathy may suggest some association between initiation decline and apathy. There were no differences in the severity of apathy in patients with different cognitive status. People with executive disorders tend to have more limited insight into their executive difficulties. Significant relationships are observed between caregiver's burden and care recipients' psychomotor slowness, apathy and anosognosia. Conclusions: The division due to cognitive functioning reveals the dynamics of changes in symptoms related to frontal lobes degeneration in Parkinson's disease. Patients with mild dementia are most at risk of developing disruptions in the anterior attentional system. Further research should be conducted on the large sample and continue the topic of possible relationships between apathy and energization impairment. Key words: Parkinson's disease, frontal lobes, attention disorders, apathy, anosognosia