

596

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Miscellaneous Topics 1**Sleep problems in patients with Parkinson's disease (PwPD) of the Siberian Region Russia**

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Objective: examination of sleep problems and investigation of associated factors, with special emphasis on disease stage, age and sex in PwPD.

Background: Sleep problems are presented at any stage of PD causing both nocturnal and diurnal changes to the physiologic sleep pattern.

Methods: PwPD completed a self-report questionnaire, which consisted of demographic variables, information of PD, such as date of diagnosis and initiating therapy, dosage, and instruments for assessment of sleep disturbances. The severity of PwPD was estimated using H&Y Scale, UPDRS. The MoCA-test was used for evaluating cognitive impairment, the PDQ-39-for quality of life, the HADS-for evaluating anxiety and depression, the Epworth Sleepiness Scale(ESS)-for quantifying excessive daytime sleepiness(EDS).

Results: 766 PwPD are registered in movement disorders electronic database of the Siberian region. 166 PwPD were included (women:men = 98:68, the mean age was 66.9 ± 9.5). The mean duration of PD was 7.2 ± 5.3, the mean H&Y stage- 2.56 ± 0.57. The mean UPDRS III was 32.9 ± 11.7, MoCA - 22.9 ± 4.3. The mean of total ESS score was 13.7 ± 4.5. Among the PwPD 67.5% of patients had EDS(24.1% had pathological EDS, 43.4%-medium). After detailed examination of PwPD with EDS was observed that EDS correlates with insomnia, nightmares, sleep attacks, REM sleep behavior disorder, restless legs syndrome(RLS), sleep apnea, nocturia. Sleep-related problems were most prominent in patients with advanced disease(p < 0.05) and high dose dopamine replacement therapy(p < 0.05).

Conclusions: Study is focusing on multifactorial sleep problems of PwPD especially in association with mental health problems, fatigue and RLS. Disease-related individual factors contribute to the degree, severity and type of sleep problems.

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597

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Miscellaneous Topics 1**Working memory compromise in sleep apnea syndrome and the impact on the cognitive potential p300**

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Background: Obstructive Sleep Apnea Syndrome provokes the disruption of normal sleep structuration, characterized by increased of superficial sleep at the expense of deep sleep and REM, leading to cognitive disorders of attention and working memory.

Objective: Evaluate the degree of alteration in working memory and attention and in OSAS patients, using neuropsychological tests, and correlate the results with the P300 evoked potential.

Methods: Linear regressions were used to evaluate the causal impact of the variables. The OSAS category was represented by dichotomous variables and estimated with the STATA program. The statistical and joint significance was evaluated via *t-statistics* and *F test*, respectively. Scatter plots were made with Matlab software.

Results: There is a positive causal and statistically significant impact of moderate OSAS patients on the P300 response, i.e., moderate OSAS experienced a greater latency of the P300 response than those with mild OSAS. The same occurred with severe OSAS with an RDI up to 50. A statistically significant relationship between age and P300 was also found. A causal link with a statistical significance was found between P300 and neuropsychological tests.

Conclusion: The latency of the P300 response is a quantitative indicator of cortical processing speed and working memory. Consequently, patients with moderate OSAS have lower cognitive processing speed and working memory than patients with mild OSAS. This is repeated in severe OSAS with an RDI up to 50 compared to moderate ones. Finally, OSAS patients with altered neuropsychological tests, show a correlation with the P300 response.

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