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## PO 101068

## REM SLEEP BEHAVIOUR DISORDER IN PARKINSON'S DISEASE: A SYSTEMATIC REVIEW AND META-ANALYSIS OF ASSOCIATION WITH MOTOR IMPAIRMENTS

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**Introduction:** Rapid eye movement (REM) sleep behaviour disorder (RBD) is a parasomnia characterized by loss of atonia associated with complex dream-enacted behaviours during REM sleep. RBD is associated with alpha-synucleinopathies such as Parkinson's Disease (PD), becoming a clinical marker of prodromal PD. **Objective:** To systematically review motor features in subjects diagnosed with PD and RBD (RBD) and subjects with PD with no RBD (NRBD) and to compare both groups. **Methods:** systematic search of observational studies was conducted until July 2020. MEDLINE, Embase, Cochrane Central Register of Controlled Trials and BVS were searched using "Parkinson Disease" [Mesh] and "REM Sleep Behavior Disorder" [Mesh] terms. These motor features were included: Unified Parkinson's Disease Rating Scale-III (UPDRS-III), rigidity, bradykinesia, gait and balance, tremor, freezing of gait (FOG), dyskinesia and motor subtype classification in tremor dominant (TD) and postural instability and gait difficulty (PIGD). We performed meta-analysis by inverse variance method with random effects model with 95% confidence interval (95%CI). We considered p-value <0.05 statistically significant. **Results:** 5.459 papers were firstly selected, later, 39 studies were included with 2513 (RBD) and 3483 (NRBD) subjects. Meta-analysis showed that RBD group have greater motor impairment at UPDRS-III scale (n=1925; MD 2.92 [95%CI=1.87; 3.97]; I<sup>2</sup>0%; p<0.0001); more rigidity (n=1722; MD 0.59 [95%CI=0.07; 1.10]; I<sup>2</sup>25%; p=0.0263); bradykinesia (n=1863; MD 0.71 [95%CI=0.03; 1.39]; I<sup>2</sup>27%; p=0.0398); gait and balance alterations (n=770; MD 0.44 [95%CI=0.08; 0.80]; I<sup>2</sup>0%; p=0.0173); FOG (n=1557; PR 1.45 [95%CI=1.13; 1.86]; I<sup>2</sup>24%; p=0.0039) and dyskinesia (n=724; PR 1.76 [95%CI=1.24; 2.48]; I<sup>2</sup>11%; p=0.0014) compared to NRBD group. Regarding to tremor, there were no differences between groups (n=2179; MD -0.10 [95%CI=-0.43; 0.22]; I<sup>2</sup>0%; p=0.5422) and (n=1525; PR 0.90 [95%CI=0.76; 1.08]; I<sup>2</sup>29%; p=0.2486). Motor subtype evaluation also had no differences observed between groups TD (n=2674; PR 0.92 [95%CI=0.84; 1.00]; I<sup>2</sup>0%; p=0.0526) and PIGD (n=2674; PR 1.07 [95%CI=0.99; 1.15]; I<sup>2</sup>0%; p=0.0895). **Conclusions:** RBD in patients with PD is associated with more severe motor symptoms. Furthermore, the manifestation of RBD is associated with greater rigidity, bradykinesia, difficulty in gait and balance, FOG and dyskinesia. Therefore, the presence of RBD is an indication of worse motor symptoms in PD patients.

## Transtornos do Movimento

## PO 102112

## SCREENING OF PARKINSONISM IN THE ELDERLY IN SOUTHERN BRAZIL: A PRELIMINARY POPULATION-BASED STUDY

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**Introduction:** Parkinsonism is one of the most common neurological disorders affecting the elderly. Several studies have determined the epidemiology of parkinsonism, mainly in higher-income countries. However, we have few population-based studies from Latin America, which seems to be a region with a distinct risk factor profile for neurodegenerative disorders. Tanner's Questionnaire is a tool that is widely used for initial screening of parkinsonian syndromes in population-based studies. **Objective:** To describe the preliminary screening profile for parkinsonian syndromes in the elderly in a population-based study in southern Brazil. **Methods:** This is a cross-sectional study part of a population-based prospective longitudinal study with a developmental cohort of parkinsonism cases (ethical approval n° 4.095.609). In this phase, Tanner's questionnaire for screening of parkinsonism and a brief interview about general clinical aspects were conducted with older people living in the city of Veranópolis-RS. Data were expressed as frequency, mean and standard deviation. To compare the clinical characteristics according to sex, the independent t-test and the chi-square test were used. A significance of p < 0.05 was considered. Analyses were performed using SPSS version 24. **Results:** So far, 838 older people were screened with a mean age of 73.35 ± 7.90 years, education of 8.37 ± 9.34 years and 58.8% (493) were women. At initial screening for parkinsonism, according to the Tanner Questionnaire, 21.7% had a positive result, of which 50.5% were women. The proportion of cases showed that men had a greater positive response to parkinsonism (residue = 2.6; p = 0.011). There was a higher proportion in males for voice change responses (p = 0.014), freezing (p = 0.033), decreased facial expression (p < 0.001), difficulty in buttoning buttons (p < 0.001) and tiny steps/shuffle feet (p = 0.028). **Conclusions:** The preliminary number of positive screenings for parkinsonism is below that found in another Brazilian population-based study. This difference may be related to intrinsic and environmental factors of this population, as it is a city of long-lived elderly.

## Transtornos do Movimento

## PO 101342

## SCREENING RISK OF FALLS IN PEOPLE WITH PARKINSON'S DISEASE USING AN DIGITAL APP: A FEASIBILITY STUDY

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**Background:** Digital technologies promise to change research and treatment monitoring in Parkinson's Disease (PD). Center of Body Mass (COM) objective measurements such as accelerometers and gyroscopes data extracted from a smartphone have been studied due to their practicality in stabilometry assessment. However, it is unknown which is the better digital system to screening the risk of falls. **Objectives:** To study the feasibility of the TechBalance-App to assess the risk of falls in PD patients in a single assessment in the clinical setting. **Methods:** In this observational cohort study, one trial clinical setting assessment with 100 PD patients (1-4 H&Y stage) on a single assessment in the clinical setting (HCFMUSP). Participants completed the App's interview (risk of falls) and performed motor tests (Balance and Gait) while using a smartphone to collect COM by gyroscopic and accelerometer data. **Results:** TechBalance-App use was acceptable for all participants who completed the assessments (58% man). TechBalance-App demonstrated to be feasible to obtain stabilometry parameters, whereas the App generates a score between low (14.5%), medium (52.7%), high (25.5%), and super high (8.2%) risk of falls. We found a difference between the H&Y severity PD stage and the App's scores (p=0.005). In addition, the risk of falls scores significantly related to corresponding MDS-UPDRS III item number 3.12. In addition, the risk of falls scores also showed a significant relationship with MBEST (p=0.005) and TUG (p=0.003). **Conclusion:** Our smartphone-based digital assessment results indicate that TechBalance-App provides sensitive fall rates and is a feasible app to screening the risk of falls in people with PD. Further studies should investigate the test-retest reliability, validity, and clinically meaningful to be used as an outcome in future PD trials and others movement disorders.

## Transtornos do Movimento