## 0635

### VALIDATION OF A CLINICAL SCALE FOR DEFINING RBD SEVERITY IN PARTICIPANTS OF THE NORTH AMERICAN PRODROMAL SYNUCLEINOPATHY (NAPS) CONSORTIUM

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**Introduction:** The objective of this study is to assess the validity of the REM Sleep Behavior Disorder (RBD) symptom severity scale (RBDSSS) and its correlation to the clinical global impression of severity (CGI-S) in a cohort of participants enrolled in the North American Prodromal Synucleinopathy (NAPS) study. RBD is a prodromal marker of α-synucleinopathies with no standardized tool for assessing severity in clinical or research practice. Development of a reliable scale is essential to understand risk of phenoconversion and to monitor response to treatments, particularly in future neuroprotective clinical trials.

**Methods:** Participants and their bedpartners enrolled in the NAPS cohort filled out an 8-item questionnaire, developed by the International RBD Study Group, assessing frequency and severity of dreams, vocalizations, movements, and injuries associated with RBD, with higher scores indicating more severe symptoms. The CGI-S is a 7-point scale ranging from normal (1) to most severely ill (7) and was completed by a clinician based on an independent interview with the participant ± their bedpartners. Data was included when patient (RBDSSS-PT) and bedpartner (RBDSSS-BP) responses were both available. Total scores were derived by multiplying assigned point values for frequency and severity (for each question) and summing them for individual RBDSSS-PT scores (total possible=54) and RBDSSS-BP scores (total possible=38).

**Results:** This cohort (n=212) included in this analysis was predominantly male (n=175) with a mean ± SE age of 65.16 ± 1.46 years. The median (interquartile range) for RBDSSS-PT, RBDSSS-BP and CGI-S was 11 (4-17), 8 (4-14.3) and 3 (3-4), respectively. Non-parametric Spearman's rank correlation coefficients (rs) for each variable pair are as follows: RBDSSS-PT vs. RBDSSS-BP, rs=0.575; RBDSSS-PT vs. CGI-S, rs=0.641; RBDSSS-BP vs. CGI-S, rs=0.463 (P<0.0001).

**Conclusion:** A moderate correlation was observed between RBDSSS-PT and RBDSSS-BP suggesting good construct validity for the scale. CGI-S correlated moderately with RBDSSS-PT and weakly with RBDSSS-BP. Future, larger studies are needed to explore this as a possible universal and clinically applicable scale for designation of RBD disease burden and prognostication.

**Support (If Any):**

## 0636

### OBJECTIVE SLEEP AS A PREDICTOR OF COGNITIVE DECLINE AMONG NON-DEMENTED ELDERLY: PRELIMINARY RESULTS FROM THE CRETAN AGING COHORT.

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**Introduction:** Sleep disturbances have been linked with cognitive decline and previous cross-sectional have shown that long sleep duration is a marker of disease severity in patients Mild Cognitive Impairment (MCI) and Dementia.Our aim was to examine the longitudinal associations between sleep quantity and quality indices and cognitive progression in non-demented community-dwelling elderly.

**Methods:** A sub-sample of 62 participants (72.6% females) were recruited from a large population-based cohort in the island of Crete, Greece of 3,140 older adults (>60yrs). Participants were followed-up 8 years later (phase III). All participants underwent neuropsychiatric/neuropsychological evaluation (phases II & III) and a 3-day 24h actigraphy (phase II).Participants were diagnosed as CNI(N=38) and MCI(N=24) during phase II, and CNI (N=22), MCI (N=27) and Dementia (N=13) during phase III. On follow-up, 28 participants progressed to a cognitively declined diagnosis compared to phase II (deteriorated group), while 34 did not (non-deteriorated group). Objective sleep variables at phase II were compared between the deteriotated/non-deteriorated groups using ANCOVA controlling for confounders. Also, differences in neuropsychological testing scores (phase II- phase III) were calculated and associations of differences with sleep variables were examined using partial correlation models controlling for confounders.

**Results:** The deteriorated group compared to non-deteriorated had significantly longer night total sleep time (TST) (442±72.6min vs. 407±53.6min, p=0.033), 24h-TST (484±8.9min vs. 434±66.4min, p=0.008), night time in bed (TMB) (537±78.7min vs. 497±62.7min, p=0.03), and 24h-TMB (603±85min vs. 539±85min, p=0.005). Episodic memory worsening was moderately correlated with night TST (r=.316), night and 24h-TMB (r=.526, and r= .442 respectively), wake time after sleep onset (r=.351), and average duration of night awakenings (r=.405). Immediate episodic memory recall decline was positively correlated with night TMB (r=.338).

**Conclusion:** Preliminary results from the Cretan aging cohort indicate that almost half of the participants deteriorated cognitively in 8 years and this decline was predicted by objective sleep duration at baseline. Long sleep at baseline may predict deterioration of clinical cognitive status in non-demented elderly at follow-up. It appears that prolonged objective sleep duration and time in bed are novel and clinically useful prognostic factors of cognitive deterioration in elderly with or without cognitive deficits.

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