Introduction: In long-term elderly care, sleeping problems regularly occur in nursing home residents due to disturbed sleep patterns leading to poor sleep quality. Three elderly care organisations in the Netherlands developed a sleeping protocol called "Night&Rest". The protocol consists of a website and App, providing care professionals with tools to identify sleeping problems of residents with dementia and to select suitable interventions to treat this problems. The aim of this pilot study was to examine (1) effects of Night&Rest on the number of bedexits and moments of nocturnal restlessness and (2) experiences of professionals with the application of Night&Rest.

Method: A Single-Case Experimental Design (SCED) with a pre- and post-measurement was used. Psychogeriatric nursing home residents were included divided over three care organizations. Registration forms were used to gather data on residents' characteristics, type of sleeping problem, frequency of nocturnal restlessness and bed exits. Professionals involved (treatment and/or care staff) were asked to complete these forms for each participating resident for five nights prior to the deployment of Night&Rest and five nights after application of the intervention(s). Semi-structured duo interviews were conducted afterwards with two healthcare professionals involved per resident. Data from registration forms were analyzed descriptively. Transcripts of the interviews were analyzed using content analysis.

Results: A total of 17 residents were included in the study of whom 15 were identified with a sleeping problem according to the protocol. A reduction of moments of restlessness was found in 10 of 15 residents, and the number of bed exits decreased among half of the residents (average decrease from 3 to 1.7). Results of the duo-interviews indicated predominantly positive experiences with Night&Rest. Professionals perceived the App as user-friendly. The structured step-by-step guidance and accompanying tools were of great added value according to the professionals. Furthermore, the App led to improved knowledge and insights into normal sleeping and influencing factors, and contributed to multidisciplinary cooperation.

Conclusion: The results of this study showed mostly positive experiences with the use of Night&Rest and positive indications of effects on both residents and care professionals. Large-scale follow-up research into the long-term effects is recommended.

Conflict of Interest: No.

P1087
Poster Session–Basic Animal–Day 3 (Poster)

The K-complex in insomnia disorder: Morphological alterations and relationship with sleep state misperception

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Introduction: Insomnia disorder (ID) is characterized by signs of cortical hyperarousal. Such high arousal level may be associated with the phenomenon called sleep state misperception (SSM): a tendency of ID patients to underestimate total sleep time (TST). The K-complex (KC) is a sleep EEG feature commonly considered a "guardian" of sleep, involved in sleep protection and arousal regulation processes. However, its role in ID and its possible relationship with SSM are still poorly investigated. The aim of the present study was to assess quantitative and morphological KC alterations in ID compared to healthy controls (HC), and their relationship with SSM.

Method: 19 ID patients (7 M; 42.42 ± 12.13 years) and 19 HC (9 M; 41.05 ± 11.86 years) performed a single night of polysomnographic (PSG) home recording (19 EEG derivations, EOG, and EMG) and completed a sleep diary following the final awakening. An index of total sleep time misperception (TSTm) was calculated comparing objective (PSG) and subjective (sleep diary) measures of TST. KCs were manually detected from N2 sleep in 3 midline derivations (Fz, Cz, Pz). KC density, amplitude, and area under the curve (AUC) were computed. Macrostructural PSG variables, KC measures and TSTm were compared between ID and HC. Finally, the relationship between TSTm and KC measures were assessed.

Results: The analysis of sleep macrostructure highlighted signs of disrupted sleep in ID compared to HC. Moreover, the assessment of TSTm pointed to a greater TST underestimation in ID compared to HC. ID patients showed lower fronto-central KC amplitude and frontal KC AUC compared with HC. Finally, lower centro-parietal KC amplitude was associated with higher TST underestimation.

Conclusion: The present findings highlight the presence of morphological alterations of the KC, specific for the fronto-central region, where they are maximally expressed, and in absence of changes in KC density. Moreover, the correlational analysis suggests that the reduced KC amplitude, theoretically expression of impaired efficiency of the sleep protection mechanism, is related to SSM.

Conflict of Interest: No.

P1088
Poster Session–Basic Human–Day 3 (Poster)

An afternoon nap helps in navigation using orientation marks

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Introduction: Sleep is known for its positive effect on memorizing information. Especially the non-REM sleep supports consolidation, that is strengthening the memories, and also improves the learned