

P10: Feasibility of a Longitudinal Audiovisual Observation Protocol to Characterize EL in Advanced AD/ADRD

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Background: Episodes of lucidity (EL) are clinically and potentially epidemiologically significant events that occur among individuals with advanced dementia. EL are characterized by a spontaneous return of abilities previously thought to have been lost and are predominantly reported near end of life. Audiovisual observation offers a valuable approach to studying EL, providing opportunities to characterize verbal/non-verbal features of EL as well as their surrounding contexts. Approaches to capturing and characterizing audiovisual data and potential verbal/non-verbal indicators of EL near end of life are lacking.

Objective: This study determined the acceptability and feasibility of a multi-faceted observational study protocol to characterize potential observable indicators of EL among people with advanced dementia near end of life.

Methods: This study incorporated longitudinal audiovisual observation, informant field interviews/case review of potential EL events by informants. We examined enrollment and retention rates, task load and usability ratings from clinician and research staff across data collection and processing tasks, and surveys and qualitative appraisal from participants and staff regarding feasibility and acceptability. The NASA TLX Task Load Index measures workflow assessment to generate a combined score between 0-20, with 0 indicating higher workflow assessment. The modified System Usability Scale (SUS) measures usability with a score of 0-100, with 100 indicating higher usability and a target score ≥ 68 indicating usability higher than 50% of the average score.

Results and Conclusion: Five eligible individuals were enrolled, yielding a 100% enrollment/retention rate, and 103 observations totaling 280 hours of observation across participants. NASA TLX Task Load Index scores of 2.9 over 4 months, with vast improvement over time indicate study procedures with iterative refinements were feasible. Average modified SUS score for clinician and research staff was 96 and 82.4 respectively, indicating high usability with notable improvement over time. Surveys and qualitative appraisal from participants and staff endorse high rates of acceptability and feasibility. Additionally, the study team identified 9 potential EL across 3 participants. Seven caregivers and two clinicians participated in case reviews to review the corresponding audiovisual data, resulting in 3 endorsed EL.

P21: Intermittent theta burst stimulation for treatment of behavioral and psychological symptoms of dementia in Alzheimer's disease and its effect on the use of antipsychotics – study protocol

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Behavioral and psychological symptoms of dementia (BPSD), such as agitation, psychosis and depression, develop in the majority of patients with Alzheimer's disease in the progression of the disease. The management of BPSD, especially in the hospital setting, frequently includes psychopharmacotherapy, particularly second-generation antipsychotics (SGAs). These are associated with significant side effects.

In recent years, repetitive transcranial magnetic stimulation (rTMS) and its accelerated protocols, continuous and intermittent theta burst stimulation (cTBS, iTBS), have proven effective in treating depression. There have also been published studies that showed their effectiveness in Alzheimer's disease, in both cognition and BPSD.

We will conduct a 6 week, double-blind, randomized, controlled trial in patients with Alzheimer's disease and BPSD, hospitalized at the University Psychiatric Clinic Ljubljana. The patients in the stimulated group will receive iTBS of the left dorsolateral prefrontal cortex for five days a week, for two consecutive weeks. The patients in the sham group will have the exact same procedural protocol, but will receive sham stimulation from the sham coil. We will evaluate BPSD before and after protocol using various clinical scales. We will look if the doses of the prescribe SGAs in the stimulated group differ from the placebo group and, if so, if the difference persists at the follow-up after four weeks.

P29: Prolonged Intermittent Theta-Burst Stimulation of the Left Dorsolateral Prefrontal Cortex for Older Adults with Treatment-Resistant Depression: Effectiveness and Safety

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Objective: Treatment-resistant depression (TRD) is not uncommon in older people. Brain stimulation, such as 4-6 weeks of repetitive transcranial magnetic stimulation (rTMS) or theta burst stimulation (TBS) targeting the left dorsolateral prefrontal cortex, has been evidenced as an essential intervention for adult TRD and also documented in the current international treatment guideline. In 2018, Taiwan Food and Drug Administration cleared the rTMS as a treatment option for TRD and now rTMS is still a treatment at their own expense in Taiwan. Additionally, prolonged intermittent TBS (piTBS) protocol has been proven its similar antidepressant efficacy as standard 4-6 weeks rTMS/iTBS in adult TRD, but in a shorter treatment course of 2 weeks. For older adults with depression, 4-6 weeks of treatment course may burden their caregiver due to their limited ambulation and transportation ability. However, hitherto there was no study to investigate the antidepressant efficacy of left-sided prefrontal piTBS in treating older TRD.

Methods: A chart review was performed at a single Taiwan hospital from 2018 to 2020. 17-items Hamilton Depression Rating Scale (HDRS-17) was measured before and after the piTBS intervention. Maudsley Staging Method was used for the depression treatment refractoriness.

Results: We identified 23 old adults with TRD (mean [SD] age, 66.0[5.2]; 78% female) who underwent 10-20 sessions of daily piTBS (1800 pulses/session; 10sessions, n=18, 15sessions, n=4, 20session, n=1). On continuous