UTILITY OF TRANSCRANIAL DIRECT CURRENT STIMULATION ON COGNITION IN CASES OF ALZHIEMER DISEASE

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Aim: A study of utility of Transcranial direct current stimulation on cognition in

cases of Alzheimer Disease a hospital-based prospective observational study

A prospective observational study and 50 subjects were part of the study

Primary Objective: To evaluate any decrease in cognitive function decline upon initiation of the procedure after 12 weeks

Secondary objective: To study the effects of the stimulation on sleep & mood during follow-up at 12 weeks

Materials and methods

- Alzheimer's Disease as per NIA-AA criteria
- Reversible causes of Dementia ruled out by relevant investigations
- Baseline Montreal cognitive assay (MOCA), Pittsburg sleep quality index (PSQI) & Beck's depression inventory
- Sessions of Transcranial direct current stimulation were given to each patient 20 minutes with 1 to 2mA current each session twice a week for 12 weeks
- The Cognitive & other parameters at 6 weeks & 12 weeks during the study

Results: tDCS significantly improved cognitive function, sleep quality, and depressive symptoms, with the greatest benefits observed in the first 6 weeks and a continued, though less pronounced, improvement at 12 weeks, suggesting its potential as an effective non-invasive intervention for Alzheimer's-related cognitive decline, sleep disturbances, and depression.

Conclusion: tDCS is an effective non-invasive intervention for improving cognitive function, mood, and sleep quality in Alzheimer’s disease patients.