ABSTRACT

BACKGROUND
Electroconvulsive therapy is a technique involving the application of electric current with the help of electrodes that are placed in the cranial vault under anesthesia. ECT has been constantly under criticism in both professional and public views because of the presumed ideas about the effects of ECT on cognitive functions. There is a need to study the effects of ECT on cognitive domains to help us evaluate the setting at which it should be clinically given, to explore its mechanism of action still further and to properly assess the risk-benefit ratio before administration of ECT.

AIM AND OBJECTIVES OF THE STUDY
The aim of present study is to assess, evaluate and compare the cognitive functions of psychiatric patients prior to and after electroconvulsive therapy administration.

To study the cognitive functions before, immediately after first electroconvulsive therapy and at the end of one week of last electroconvulsive therapy. To compare and correlate the cognitive functions and illness variable with electroconvulsive therapy

MATERIALS AND METHODOLOGY
An array of tools like PGI memory scale, Digit symbol substitution test, Color trial test 1 and 2, Controlled Oral Word Association test and Addenbrooke’s Cognitive rating scale were used for this study and applied to patients (n=36) before and after ECT administration. Results were collected, tabulated and analyzed. Repeated measures
ANOVA was used to measure statistical significance and post-Hoc analysis was done using Fisher test to compare between groups. Statistical significance was recorded.

RESULTS

It was observed that ECT resulted in cognitive decline in the acute phase immediately after first ECT and on observing in the one week post last ECT period, all the cognitive domains improved more than baseline values except memory subset. Results were tabulated. Schizophrenia patients have the most and Depression patients have the least illness related cognitive impairment in this study.

DISCUSSION AND CONCLUSION

ECT treatment has effects on memory as well as non memory cognitive domains. Acute effects of ECT on cognition is short lived and reversible and ultimately ECT resulted improved cognitive outcomes except on memory subset. The cognitive improvement seen in these disorders can be attributed to decrease in illness severity by administration of ECT. Thus present study attempted to address the cognitive outcomes before and after ECT administration. Conducting further studies with wider tools and having longer feedback along with biological marker of brain changes would help to decipher the changes that ECT brings on cognitive functions and thereby the quality of life of these patients.

KEY WORDS

ECT, COGNITION, BRIEF PULSE ECT, MEMORY, PSYCHIATRIC PATIENTS