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REASSESSING THE UTILITY OF ELECTROCONVULSIVE THERAPY IN LIGHT OF MHCA 2017 : A SIX YEAR RETROSPECTIVE DATA BASED STUDY

Psychiatry

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KEYWORDS

INTRODUCTION

The use of Electroconvulsive Therapy (ECT) has been a controversial topic in the field of mental health for decades. Despite its long-standing history and proven efficacy in treating severe mental illnesses such as severe depressive disorders (1),mania, catatonia, acute exacerbations of schizophrenia and risk of self-harm(2), ECT has been surrounded by ethical concerns and legal regulations.

Modified ECT constitutes induction of a series of generalized epileptic seizures for therapeutic purposes, using brief-pulse stimulation techniques under anaesthesia and muscle relaxation(3) (4).

Despite extensive experience and evidence, guidelines only recommend ECT as a later intervention for severe and complex depression following the failure of multiple medications, high-intensity psychological interventions, combined treatments, and collaborative care (5).

The American Psychiatric Association (APA) published guidelines for the use of ECT in 2016, recommending ECT as a first-line treatment for severe major depressive disorder and highlight the potential benefits of ECT in bipolar disorder, catatonia, and some forms of schizophrenia (6).

The Royal College of Psychiatrists (RCP) guidelines emphasize the role of ECT in severe mental illness and suggest its use in cases where there is a risk of suicide, severe agitation, or refusal of food and fluids(7).

The British Association of Psychopharmacology has recommended ECT as first line treatment in catatonia (8).

The evidence for the effectiveness of ECT in schizophrenia has shown inconsistent results and thus, NICE does not recommend ECT in this population (4).Four RCTs reviewed in the Assessment Report of NICE suggests that ECT may be of benefit in the rapid control of mania and catatonia and this suggestion is supported by evidence from a number of observational studies and testimony from clinical experts. However clear cut guidelines for ECT use in Catatonia and mania are missing(9).

With the introduction of Mental Health Care Act 2017, discussion on the use of ECT has once again come to forefront. The act forbids the use of ECT as part of emergency management. It also recommends that ECT not be given to minor and if required, prior consent be taken from the guardian. It also mandates the establishment of Mental Health Review Boards (MHRBs) to oversee the use of ECT and other mental health treatments(10).

We collected data from a tertiary centre from January 2017 to December 2022, including a timeframe prior to the implementation of MHCA 2017 to analyse demographic details, indications and treatment outcomes in patients receiving mECT in the light of MHCA 2017

METHODS

Upon approval from the institutional ethical committee, information was gathered from the charts of all patients who received ECT between January 2017 to December 2022, Department of Psychiatry, Lady Hardinge Medical College. Psychiatric diagnosis as defined by the International Classification of Diseases (ICD) -10 was made or confirmed by an experienced psychiatrist during the initial evaluation. Severity of the diagnosis was measured by a psychiatrist using the standardised scales at the initial ECT procedure and prior to all subsequent procedures to monitor response. Data was collected and analysed for all the 300 patients. The data was collected from ECT record register of the department which included details about ECT, diagnosis treatment history and improvement assessed by applying appropriate scales. However the data lacked complete socio demographic details.

All patients who were administered ECT received bilateral modified ECT. The decision to administer ECT is usually taken by the consultant-in-charge of the case, in consultation with other treating team members. ECT is usually advised based on the patient's clinical status, severity of symptoms, response to other treatment and past history. Once ECT is considered as a treatment, patient and family members are approached and explained about the need for the ECT and procedure of ECT. Once consent is given, patients who agree to undergo ECT are evaluated physically, undergo necessary investigations and are evaluated by the anaesthetist for their fitness to undergo ECT. If the medical team determined that the patient is suitable for electroconvulsive therapy (ECT), they received bilateral, brief-pulse, modified ECT treatment. The ECT machine delivers constant energy. The treatment allows for customization of the current duration (ranging from 0.1 s up to 5 s), frequency (with settings of 20, 40, 50, 60, 70, and 90 Hz), and pulse width (including options of 0.1, 0.2, 0.5, 1, 1.2, and 1.5 s. Typically, during the administration of ECT, the frequency is set at 70 Hz and the pulse width is set at 1 s, remaining constant throughout the session. However, the duration of current is adjusted based on individual response. In most cases, the initial stimulus is given at 0.6 s. If a patient does not have an effective seizure lasting at least 15 s, the duration of current is increased, with a maximum of 3 stimuli given in a single ECT session. Our institute adopts evidence-based practices for Electroconvulsive Therapy (ECT), following the NIMHANS ECT manual as a comprehensive treatment guideline(12). In subsequent sessions, the electrical dose is adjusted to account for changes in the seizure threshold. ECT is typically administered three times a week.

The data was analyzed using SPSS version 21 (11). Categorical variables were assessed in terms of frequency and percentages, while continuous variables were evaluated in terms of mean and standard deviations.

RESULTS

Study sample and demographic profile:

A total of 300 patients aged between 16-75 years were given ECT during the study period. The mean age of patients was 31.60 years. During this period 9 minors (age< 18 years) (N =9; 3%) received ECT. The group consisted of 153 females and 147 males.

Clinical profile:
The most common diagnosis in the group was Bipolar Affective Disorder (N = 86, 28.66%) with mania with psychotic symptoms (N = 51; 17%) more common than without psychotic symptoms (N = 26; 8.66%) followed by current episode depression (N = 9; 3%). Second most common diagnosis was of psychosis (N = 158; 52.66%) with paranoid schizophrenia most common diagnosis (N = 79; 26.33%) followed by catatonia (N= 32; 10.66%), ATPD (N=12; 4%), schizoaffective disorder(N=11; 3.66%), undifferentiated schizophrenia(N=10; 3.33%), cannabis induced psychosis(N=8; 2.66%), unspecified organic psychosis(n=5; 1.66%) and persistent delusional disorder (N=1; 0.33%).

Forty patients(N=40; 13.33%) had a diagnosis of severe depressive disorder and recurrent depressive disorder and fourteen cases (N = 14; 4.66%) received ECT for diagnosis of obsessive compulsive disorder.

Emergency treatment including ECT defined as that given within 72 hrs of admission was given to ninety one (N = 91; 30.33%) out of which three (N = 10; 3.33%) were minor. The response in clinical symptoms varied from 2% to 100% with an average response of 56.26%.

ECT profile:
The most common indication for ECT in the group was poor response to medications (N=170; 56.66%) and this was followed by requirement of early response (N = 48; 16%) and others such as suicidality, catatonic symptoms and poor oral intake.

The number of ECTs administered to patient ranged from 1 to 30, with an average of 6.60 per patient . In terms of improvement, 64.66% (N = 194; 64.66%) showed good response to treatment defined as 20% or more reduction on scales used for psychosis, complete absence of symptoms on BFCRS, 50% or more reduction in mood symptoms on standardised scales and 25% or more improvement in OCD symptoms on standardised scales.

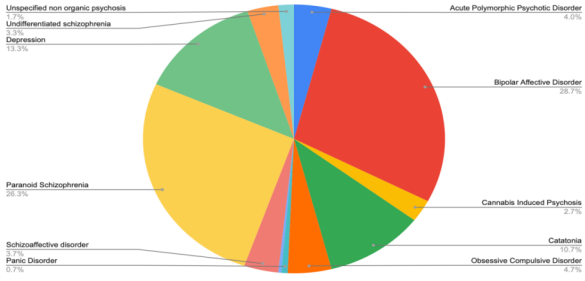

Figure 1: Distribution of patients according to clinical diagnosis

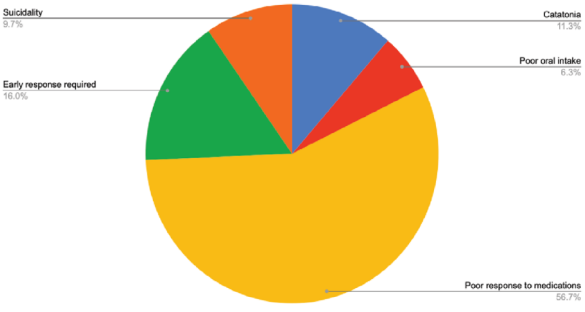

Figure 2: Distribution of patients on the basis of indication of ECT

DISCUSSION

Out of the total 1570 in-patient in the study duration, 300 patients (19.10%) received ECT. When compared to past studies(13)(14) it shows that there is a gradual rise in use of ECT in patients which can be attributed to -better and safe practices and slow but steady decline in the stigma surrounding the use of ETC.

Among the 300 who were administered ECT, psychosis (N = 158; 52.66%) was the most frequent diagnosis followed by mood disorder (N = 126; 42%). However this isn't in accordance to recent guidelines where more robust and clear indications for ECT exist in mood disorders as compared to psychosis.

Another main indication for ECT i.e. catatonia represented in around 11% of patients.

Around thirty percent of the patients got emergency treatment which included ECT, mainly in cases where there was poor response to medications before admission (N= 56; . Within this group two (4.28%) were minors (<18 years of age). A total of nine minors (3%) had received ECT in the study period. Multiple studies have demonstrated the safety and efficacy of ECT in pediatric population for varied psychopathology (15).

The response in clinical symptoms varied from 2% to 100% with an average response of 56.26%. ECT is associated with rapid response and remission in a high percentage of patients.

No individual suffered complications of anaesthesia or serious adverse effects of ECT during the study period.

ECT warrants early consideration in treatment algorithms for patients. With the introduction and implementation of MHCA 2017 and its stance on emergency ECT as well as ECT in minors , alternative treatment plans will be needed in this group of patients. The rapid response and resolution of these symptoms will become a challenge for clinicians as much time might be taken in getting permission from the concerned boards unless robust measures are implemented.

Retrospective design, possible selection bias by virtue of being a single-center study, and nonmatching of sample across the studied groups are a few limitations of the study. Gender differences, socio-demographic differences, long term sustained benefits as well as adverse effects of ECTor differences in reasons for termination of ECT were not analysed due to lack of access to this data. Although the data for gender of patients was available but the gender differences between groups could not be assessed due to small sample size in each group. Given the naturalistic study design, the results are not affected by constraints of patient selection and ensuring strict protocols as in clinical trials. For this reason, they are also more reflective of real-world practice of ECT in Indian settings.

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