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COMPARISON OF THE RESPONSE OF ECT IN TREATMENT RESISTANT UNIPOLAR AND BIPOLAR DEPRESSION

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ABSTRACT

BACKGROUND: Electroconvulsive therapy (ECT) is the modern psychiatric armamentarium in the hands of psychiatrists for the treatment for severe and treatment-resistant depression.

AIMS: To compare the response of ECT in treatment resistant unipolar and bipolar depression.

MATERIALS & METHODS: The present study was a comparative, prospective study which was conducted on 40 patients of treatment resistant unipolar and bipolar depression at the Institute of Mental Health and Neurosciences Centre of excellence, Kashmir over a period of one year and two months. The patients were assessed by Montogomery Asberg Depression Rating Scale (MADRS)11 one day before the start of the ECT course, one day after last ECT, at 3 months follow up and at 6 month follow up.

RESULTS: There were 75% patients of unipolar depression and 25% patients of bipolar depression. The mean age of studied patients was 41.2 (± 12.06) years. 52.5% were males and 47.5% were females. The mean number of ECT's received were 8.52(±2.19). The difference between the mean MADRS score of unipolar and bipolar depression before the start of ECT course, at end of the ECT course, at 3 and 6 months after the ECT course were 0.1, 2.3, 2.48 and 2.62 respectively which were non significant.

CONCLUSION: There is no difference in response of ECT among the treatment resistant unipolar and bipolar depression patients. Patients with treatment resistant bipolar depression can be treated with ECT with results similar to treatment resistant unipolar depression.

KEYWORDS : ECT, MADRS, Depression.

INTRODUCTION:

Electroconvulsive therapy (ECT) is somatic therapy where seizures are induced under medical supervision by passing electric current across the scalp.[1] The credit for origin of the ECT was given to Von Meduna[2] whereas Cerletti & Bini were the first one in the year 1938 to induce therapeutic convulsions among the patients with severe psychosis.[3] Despite its poor image in the public's eye, it became an extremely safe and useful treatment modality in many psychiatric conditions.[4] It has remained a very controversial mode of treatment despite low side effect profile and high efficacy due to lack of knowledge among heath care professionals, misinterpretations by media, propaganda by certain social and political groups for cheap publicity.[5] There is positive attitude of psychiatrist in India towards ECT, as the use of ECT in India is on a rise when compared to western countries.[6] It is the only biological treatment of the 19th Century that is still widely used these days.[3]

Electroconvulsive therapy (ECT) has been in use for 75 years and is the modern psychiatric armamentarium in the hands of psychiatrist for the treatment for severe and treatment-resistant depression.[5] Treatment-resistant depression (TRD) usually refers to the occurrence of an inadequate response following adequate antidepressant therapy among patients suffering from depressive disorders. The considerable debate in the field is what constitutes inadequate response as most researchers would argue that inadequate response is the failure to achieve remission.[7] Depression is said to be treatment refractory or resistant if at least 2 trials with antidepressants from different classes of pharmacologic drugs (adequate in terms of dosage, duration, and compliance) fail to produce a significant clinical improvement.[8] Electroconvulsive therapy (ECT) is a powerful, acute treatment for severe and resistant mood disorders, with efficacy in both unipolar and bipolar depression although both these conditions had different genetic, personality, demographic and neurophysiologic variables.[9] However very little research regarding response of ECT in unipolar and bipolar depression has been done in this part of world. Hence the present study was carried out to compare the response of ECT in treatment resistant unipolar and bipolar depression.

METHODOLOGY:

The present study was a comparative prospective study which was conducted at Institute of Mental Health and Neurosciences Centre of excellence, Kashmir over a period of one year and two months enrolling 40 patients of treatment resistant unipolar and bipolar depression. After meeting the inclusion criteria, general information including age, sex, residence etc were recorded and the patients were assessed by Montogomery Asberg Depression Rating Scale (MADRS)[11] one day before the start of the ECT course, one day after last ECT, at 3 months follow up and at 6 month follow up.

INCLUSION CRITERIA

- Patients of treatment resistant unipolar and bipolar depression which were taken for ETC.
- Both males and females were included.

EXCLUSION CRITERIA

- Those who did not consent.
- Those who had never received a trial of pharmacotherapy and ECT was given as acute management.
- If general anaesthesia was contraindicated.
- Age less than 18 years.

STATISTICAL ANALYSIS:

Analysis of data was done using statistical software MS Excel / SPSS version 17.0 for windows. Data presented as percentage (%) as

discussed appropriate for quantitative and qualitative variables. Quantitative data was analysed by using one way Analysis of Variance.

OBSERVATIONS AND RESULTS:

Table 1 shows that the diagnosis of unipolar depression was in 75% and that of bipolar depression in 25% patients. Majority of the patients were in the age group of 41-50 years i.e. 30% followed by 27.5% in 31-40 years. The least number of patients were in the age group 52-60 years and above 60 years which were 17.5% and 2.5% respectively. The mean age of studied patients was 41.2 (± 12.06) years. There were more males (52.5%) than females (47.5%). 100% patients were Muslims. Majority i.e. 55% of the patients were married whereas 32.5% were unmarried, 10% were widowed and 2.5% were divorced. 62.5% patients received 6-9 ECT's and only 37.5% received 10-12 ECT's and the mean number of ECT's received were 8.52(±2.19).

Table 2 shows mean MADRS score of the unipolar and bipolar depression before the start of ECT course, at the end of the ECT course, at 3 and 6 months following the ECT course. The difference between the mean MADRS score of unipolar and bipolar depression before the start of ECT course, at end of the ECT course, at 3 and 6 months after the ECT course were 0.1, 2.3, 2.48 and 2.62 respectively which were non significant.

DISCUSSION:

Electroconvulsive therapy (ECT) continues to be the one of the most effective treatment for major depression that mankind had, particularly for the treatment resistant major depressive disorders.[12] The evidence for the efficacy of electroconvulsive therapy in unipolar depression has been studied extensively but not in case of bipolar depression.[13] Hence, the present study was carried out to compare the response of ECT in treatment resistant unipolar and bipolar depression.

A total 40 patients were selected for the study, 36 completed the full course of the ECT which were followed upto 3 months whereas 29 of them were followed upto 6 months.

In the present study 75% of the patients were of unipolar depression whereas 25% patients were of bipolar depression. Our study is in accordance with Bailine S et al who found that 77.3% participants were of unipolar depression and 22.7% were of bipolar depression.[13] Our finding can further be supported Agarkar S et al who found that 68% patients were of unipolar and 32% were of bipolar depression. Similar results were found by the other studies.[14]

Majority (30%) of the patients in this study belongs to the age group of 41-50 years followed by 27.5% in the age group 31-40 years. The mean age of our studied patients was 41.2 (± 12.06) years which suggests that patient receiving ECT in this part of world are quite younger than the those receiving in western world. This may be due to the younger age of onset of depression in Kashmir which is as per Amin et al who found high prevalence of depression in age group 15-25 years (66.67%) and in age group 26-35 years (65.33%).[15] Similar finding was observed by Bharadwaj et al who found that the mean age of the patients at the time of receiving ECT was 36.2 (± 14.08) years.[16] However various western studies had shown mean age above 50 years while receiving ECT.[17,18] The possible explanation for this difference can be in western studies older patients may be benefit more than the younger patients from ECT and hence ECT was given more to older group than the younger group.[18]

The number of male patients in this study were comparable to females as treatment resistance psychiatric disorders occurs with equal frequency in both sexes.[19] There were about 52.5% male patients and 47.5% female patients in this study. Some studies also shown that males are receiving more ECT's [18,16,20,21] whereas others studies had shown the use of ECT more in females.[17,22] The majority i.e. 70% of the patients in this study were from rural areas whereas only 30% were urban areas. The demographic profile of India is such that majority of its population lives in rural areas.[23] Our finding is in accordance with Bharadwaj et al who also found that majority of the patients receiving ECT were from rural areas.[16]

In the present study 55% patients were married and only 32.5% were unmarried This can be explained by the fact that majority of the patients were between 30-50 years and by this age peoples in this part of world may get married. Similar findings were observed by other studies.[16,17] About 68% of the studied patients received 6-9 ECT's and 32% received 10-12 ECT's. The mean number of ECT's received was 8.52(±2.19). Similar findings were observed by other studies.[24,25]

The mean MADRS score of unipolar and bipolar depression at completion of ECT course was 11.41(±8.12) and 9.11(±7.11) respectively. The difference between the two was 2.3 which was statistically insignificant. Our finding suggests that ECT has similar response both in treatment resistant unipolar and bipolar depression as no significant difference in mean MADRS score exists between the two groups after completion of the ECT course. The electroconvulsive therapy (ECT) is effective treatment for depressive episodes occurring both in unipolar and bipolar disorder especially which are resistant to pharmacological treatment[25] and the response to ECT may be more rapid and equivalent in both conditions.[14] Our finding is in accordance with Sienaert P et al who did not find any difference in rates of response or remission in patients of unipolar and bipolar depression following ECT course.[9] Similarly Abrams R and Taylor MA found no differential response between unipolar and bipolar depressives to a fixed number of ECTs.[10] Our finding can further be supported by Bailine S et al who found the remission and response rates and the number of ECT's for both unipolar and bipolar depression were equivalent.[13] Other studies had also not find any difference in efficacy of ECT between the two forms of depression.[12,27] Moreover the differences in the mean MADRS of unipolar and bipolar depression at 3 month and 6 month following the course of ECT were also non significant which suggests that there is no difference of response among unipolar and bipolar depression even after 3 and 6 months following the ECT course.

CONCLUSION:

From present study, it has been concluded that there is no difference in response of ECT among the treatment resistant unipolar and bipolar depression patients. Patients with treatment resistant bipolar depression can be treated with ECT with results similar to treatment resistant unipolar depression.

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Table 1 shows sociodemographic and clinical profile of studied patients

	Number of caregivers	Percentage (%)
Clinical diagnosis		
Unipolar depression	30	75
Bipolar depression	10	25
Age (in years)		
21-30	9	22.5
31-40	11	27.5
41-50	12	30
51-60	7	17.5
60	1	2.5
Sex		
Males	21	52.5
Females	19	47.5
Residence		
Rural	28	70
Urban	12	30
Religion		
Muslims	40	100
Others	0	0
Marital status		
Married	22	55
Unmarried	13	32.5
Divorced	1	2.5
Widowed	4	10
Number of ECT's received		
6-9	25	62.5
10-12	15	37.5

Table 2 shows comparison of mean MADRS score of unipolar depression with bipolar depression before ECT, after ECT, at 3 months follow up and at 6 months follow up

	Mean MADRS score of unipolar depression (M1)	Mean MADRS score of bipolar depression (M2)	Difference between mean MADRS score of unipolar and bipolar depression (M1-M2)	p-value
Before ECT course	41.60±4.89	41.50±1.08	0.1	0.67
After ECT course	11.41±8.12	9.11±7.11	2.3	0.599
At 3 months follow up	15.59±12.38	13.11±13.53	2.48	0.285
At 6 months follow up	19.62±9.9	17±14.07	2.62	0.112

*P-value significant at the level of 0.05
**P-value highly significant at the level of 0.001

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