

Perceptions of outcome from electroconvulsive therapy by depressed patients and psychiatrists

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Objective: To determine (i) patients' expectations before and attitudes after a course of electroconvulsive therapy (ECT); (ii) the concordance between the perceptions of patients and their psychiatrists; and (iii) whether patients and psychiatrists are accurate in predicting a positive outcome with ECT.

Method: Eighty-one inpatients (mean 67.2 years, median 70 years) with major depression were assessed before and after receiving a course of ECT. On both occasions, patients were administered the Hamilton Rating Scale for Depression (HRSD) and the Global Assessment of Functioning Scale (GAF). Patients and two research psychiatrists rated their expectancy of treatment outcome before ECT and their impression of outcome after ECT was completed.

Results: Both HRSD and GAF scores improved with treatment. Before treatment, 39.7% of patients believed ECT would improve their condition. Following treatment, 68.8% of patients thought their condition had improved as a result of ECT. There was only slight agreement between patients' and psychiatrists' expectations before and ratings of efficacy after treatment. The psychiatrists', but not the patients', pretreatment expectations of ECT efficacy were significantly associated with improvement in depression as measured by the effect size change in HRSD score from pre- to post-ECT.

Conclusions: Patients were poor judges of ECT outcome and, in this sample, less positive than previous reports had suggested. Psychiatrists' expectations however, were generally accurate indicating good clinical selection.

Key words: attitudes, depression, electroconvulsive therapy.

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Past and contemporary portrayals of electroconvulsive therapy (ECT) have not always been favourable, many

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have implied that ECT is a cruel punishment for those who do not conform, or that it is used to clear a patient's head so that he or she no longer feels depressed [1,2]. The majority of respondents in an Australian survey of the general public viewed ECT as a harmful treatment for depression and schizophrenia [3]. Much of the information that patients have to guide their attitudes towards ECT has been obtained from movies, newsprint or popular fiction [4,5]. For example, movies such as *One Flew Over The Cuckoo's Nest* have perpetuated negative images and conceptions of ECT [1]. The advertising and legislative success of anti-ECT lobby groups, such as the Scientology movement, have further contributed to these images [6].

In contrast to these populist views, patients in the UK, US and Australia who have received ECT are frequently

satisfied with the experience and rarely report that it was more than mildly distressing [7–16]. Only 16% of Freeman and Kendall's (1980) [8] sample described feeling very anxious or frightened before receiving ECT. Szuba *et al.* (1991) [10] found only one patient in 25 thought that psychiatrists who gave ECT on more than rare occasions were irresponsible; that only two patients expected that receiving ECT would probably or definitely be worse than visiting the dentist; and that 68% believed they had received adequate information to decide about ECT. Importantly, Szuba *et al.* [10] found no significant difference in the expectations of ECT between those who had and those who had not received ECT before. They also found no significant relationship between patient attitudes after treatment and improvement that occurred with ECT.

Several studies have shown that by and large psychiatrists are positive about the use of ECT [17–20]. By contrast, psychiatrists' expectations of their patients' outcomes with ECT and how these match those of their patients appear not to have been studied.

The present study sought to determine:

1. patients' attitudes before and after a course of ECT;
2. the concordance between patients' expectations and that of their psychiatrist before and after treatment; and
3. the accuracy of patients' and psychiatrists' expectations in predicting a positive outcome with ECT.

We hypothesized that (i) patients' attitudes to ECT would be more positive after ECT and that this would correlate with improvement in depression; (ii) that the concordance between patients and psychiatrists would be greater after ECT; (iii) and that psychiatrists, because of their training, would be more accurate in predicting outcome of ECT.

Method

Design and subjects

The methods used in the present study have been described in detail elsewhere [21]. Briefly, 101 consecutive inpatients who presented with a depressive syndrome, were prescribed ECT, and had not received a prior course of ECT during this episode, were recruited over a two-year period. Thirteen patients with primary organic disorders and seven with atypical/schizophrenic psychoses were excluded, leaving 81 patients with a primary diagnosis of major depressive episode as defined by DSM-III-R [22]. Dementia was an exclusionary criterion. Diagnoses were made by the treating psychiatrist and were confirmed independently by two other psychiatrists experienced in the assessment of mood disorders (IH, CM). The decision to commence treatment with ECT was made by the treating clinician independently of the research study. A member of the research staff interviewed patients who provided informed consent to participate in the study. Patients were given written information about the study as well as the standard

information sheet as required under the Mental Health Act in New South Wales and signed a consent form. The study had institutional ethics committee approval.

Assessment

Patients were assessed up to one week before commencing and within two weeks of completing their course of ECT. A detailed medical and psychiatric history, and information about current psychiatric treatment were obtained from all patients. Diagnoses were made using a structured interview from which DSM-III-R diagnoses of depression and melancholic and psychotic subtypes could be generated [22,23]. Depression severity was quantified by the structured 21-item Hamilton Rating Scale for Depression (HRSD) (higher score = greater severity) [24] and function by the Global Assessment of Functioning (GAF) scale (higher score = better) [21]. These were rated by the same psychiatrist before and after ECT.

Patients were also asked to rate their expectation of improvement with ECT on a scale from 1 (expects to get worse) to 5 (expects marked improvement or complete remission). Likewise, both psychiatrist raters predicted the short-term response to ECT (i.e. for the two weeks following completion of the course) on a similar scale: from 1 (predicts deterioration) to 5 (predicts marked improvement or complete remission).

Eighty patients (one died after one ECT), were reassessed by an independent research psychiatrist within two weeks following their final ECT, by use of the HRSD and the GAF. Patients were also asked to rate their beliefs about the efficacy of ECT on a scale from 1 (patient believes he/she has become more depressed or suffered serious physical/mental harm) to 5 (patient believes that he/she has markedly improved or fully recovered). Both research psychiatrists rated global outcome on a scale from 1 (patient more depressed/less functional following ECT) to 5 (marked improvement in depression or functioning or complete remission).

Improvement in depression and functioning was measured by effect size. (The effect size is calculated by subtracting the mean of the post-treatment score from the mean of the pretreatment score and dividing this by the pooled standard deviation).

Statistical analyses

χ^2 tests and a distribution-free related samples t-test (Wilcoxon) were used to compare HRSD scores from pre- to post-treatment. A repeated measures t-test was used to compare GAF scores across occasions.

Cohen's Kappa was used to assess agreement between the two psychiatrists, and between patients and the psychiatrist. For all other analyses, patient and psychiatrist ratings were each collapsed, so that ratings of no benefit or a belief that they would (pre) or did (post) get worse were assigned a value of '0' ('same/worse'), while beliefs of mild, moderate or marked improvement were assigned a value of '1' ('better').

Differences between patient and psychiatrist ratings were analysed using χ^2 analyses. Repeated measures ANOVAS were used to examine associations between change in HRSD scores and psychiatrist and patient expectations before ECT.

Results

Demographic and clinical details

There were 28 men and 53 women, whose mean age was 67.2 years (SD = 13.1) and who had completed an average of 9.5 (SD = 2.4) years of education. They received a mean of 11.3 (SD = 5.1) treatments of which 55 (63%) were unilateral, six (7%) bilateral and 20 (25%) mixed unilateral and bilateral.

Hamilton scores improved with treatment (pre-ECT mean = 28.8, SD = 8.3; post-ECT mean = 10.3, SD = 9.0; Wilcoxon $Z = -7.7$, $p < 0.001$). There were 75 (92.6%) patients with a HRSD score of greater than 16 pre-treatment and 22 (27.5%) patients with a HRSD score of greater than 16 following treatment ($\chi^2 = 2.3$, $p = 0.33$). Global assessment of functioning scores also improved from pre-ECT to post-ECT (pre-ECT: mean = 36.2, SD = 15.1; post-ECT: mean = 64.9, SD = 16.5; $t = -11.3$, $p < 0.001$).

Patients' attitudes before and after ECT

Before treatment 39.7% of patients believed that ECT would improve their condition, 41.1% believed their condition would remain the same/unchanged, and 19.2% believed it would be made worse (mean = 2.92, SD = 1.6). Of the 14 patients who expected to get worse, the reasons given for their expectations were the belief that nothing would help ($n = 2$), psychotic reason ($n = 2$), negative past experience ($n = 1$), poor/lack of insight ($n = 1$), physical illness ($n = 1$), no reason/missing data ($n = 7$). Pre-treatment expectations were similar among patients who had and had not had previous ECT ($\chi^2 = 0.20$, $df = 1$, $p = 0.89$). There was a non-significant trend for patients with positive expectations to be less depressed than those with negative expectations (mean HRSD = 26.7 (SD = 9.7) and 30.5 (7.3), respectively; $t = -1.94$, $d.f. = 71$, $p = 0.056$).

Following ECT, 68.8% of patients thought their condition had improved as a result, 6.5% believed it had been worsened, and 24.7% thought their condition unchanged (mean = 3.57, SD = 1.39). Those patients whose post-ECT views about the efficacy of ECT were positive were less depressed than those with negative views post-ECT (mean HRSD = 7.64 (SD = 7.02) and 16.88 (SD = 10.1), respectively; $t = 4.65$, $d.f. = 75$, $p < 0.0005$). There was an association between post-treatment attitudes toward ECT and residual depression ($\chi^2 = 17.3$, $df = 1$, $p < 0.0005$). Those subjects with positive post-ECT views of ECT had a significantly greater reduction in HRSD scores (mean change = 21.13, SD = 10.54) than those with negative post-ECT views (mean change = 12.54, SD = 10.25; $t = -3.341$, $df = 1,75$, $p = 0.001$). Of those patients who had residual depression post-treatment (i.e. HRSD scores > 16), 62.5% had negative views of the efficacy of ECT. Not surprisingly, 86.8% of patients whose post-treatment HRSD scores were less than 16 held positive views toward the outcome of ECT.

Psychiatrists' expectations of ECT outcome

Psychiatrist rater 1 (CM) expected 94.1% and psychiatrist rater 2 (IH) expected 100% of patients to at least mildly improve with treatment. Given the high degree of agreement between psychiatrists, only

the ratings of the more conservative rater (CM) were used for the rest of the analysis.

Change in patient attitudes

There was no significant difference between patient expectations before treatment and their ratings of the treatment's efficacy after treatment ($\chi^2 = 0.29$, $df = 1$, $p = 0.59$). After ECT, seven of the 14 patients who had expected to get worse but still went ahead with ECT had a positive view of ECT; (the view of one patient was not available). Of these same 14 patients, two had post-ECT HRSD scores of 23 and 27, five had scores < 10, and seven were not rated on the HRSD.

Concordance between expectations and outcomes

There was only slight agreement between patients' and psychiatrist's ratings on expectation of response to treatment before ECT (Kappa = 0.026) and the efficacy of ECT after treatment (Kappa = 0.151), suggesting no change in concordance.

Prediction of outcome

The psychiatrist's, but not the patients', pre-treatment expectations of ECT efficacy were significantly associated with the improvement as measured by the effect size change in HRSD from pre- to post-ECT (for psychiatrist, $F(1,66) = 9.48$, $p = 0.003$; for patients, $F(1,71) = 0.85$, $p = 0.36$).

Discussion

Patients' attitudes before and after ECT

The patients in this sample from Sydney hospitals, were less positive in their expectations of ECT than previous reports had suggested. Just over one-third of patients expected to be better. This may have been because previous surveys of patients were performed subsequent to them receiving ECT. After ECT over two-thirds had a positive rating of the effects of ECT and, confirming our first hypothesis, those who were positive were more likely to have improved in their depression. The two research psychiatrists, who were not the prescribing clinicians, were almost universally optimistic about the outcome of ECT. The degree of agreement between patients' and psychiatrist's ratings on the predicted efficacy of ECT were slight and concordance improved minimally after ECT.

Accuracy of predicting outcome

Depressed patients were poor judges of outcome prior to receiving ECT and perhaps as expected given their clinical state, were more likely to be pessimistic about outcome. Indeed, more depressed patients had

less positive attitudes. Psychiatrists may have overestimated the efficacy of ECT, although, as hypothesized, their expectations were more likely to be correct than those of their patients. Perhaps a good clinical selection of patients for ECT ensured this result – there was little variance in psychiatric ratings and most patients improved.

Limitations of this study included the modest number of patients, the difficulty of measuring attitudes in depressed persons, the restriction on recruitment of patients who could give informed consent and whom psychiatrists considered warranted ECT, the limited variance in psychiatrist attitudes and the lack of available information about technical details regarding the administration of ECT.

The major implication of these findings (given that most patients improved) is that, in depressed patients for whom ECT is considered the treatment of choice, the majority (and usually their families) will need a lot of reassurance from the treating psychiatrist who in turn should feel confident about the decision to give ECT when it is clinically indicated.

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