Supplemental Online Content

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This supplemental material has been provided by the authors to give readers additional information about their work.
| Comorbidity category in the present study | Diagnoses according to ICD-10 |
|------------------------------------------|--------------------------------|
| Anxiety disorder                         | F41.0 Panic disorder [episodic paroxysmal anxiety] |
|                                         | F41.1 Generalized anxiety disorder |
|                                         | F41.2 Mixed anxiety and depressive disorder |
|                                         | F41.3 Other mixed anxiety disorders |
|                                         | F41.8 Other specified anxiety disorders |
|                                         | F41.9 Anxiety disorder, unspecified |
| Obsessive-compulsive disorder            | F42.0 Predominantly obsessional thoughts or ruminations |
|                                         | F42.1 Predominantly compulsive acts [obsessional rituals] |
|                                         | F42.8 Other obsessive-compulsive disorders |
|                                         | F42.9 Obsessive-compulsive disorder, unspecified |
| Attention-deficit hyperactivity disorder (ADHD) | F90.0 Disturbance of activity and attention |
| Autism                                  | F84.1 Atypical autism |
|                                         | F84.5 Asperger syndrome |
| Personality disorder                    | F60.0 Paranoid personality disorder |
|                                         | F60.1 Schizoid personality disorder |
|                                         | F60.2 Dissocial personality disorder |
|                                         | F60.3 Emotionally unstable personality disorder |
|                                         | F60.4 Histrionic personality disorder |
|                                         | F60.5 Anankastic personality disorder |
|                                         | F60.6 Anxious [avoidant] personality disorder |
|                                         | F60.7 Dependent personality disorder |
|                                         | F60.8 Other specific personality disorders |
|                                         | F60.9 Personality disorder, unspecified |
| Substance use disorder                  | F10 Mental and behavioral disorders due to use of alcohol |
|                                         | F11 Mental and behavioral disorders due to use of opioids |
|                                         | F12 Mental and behavioral disorders due to use of cannabinoids |
|                                         | F13 Mental and behavioral disorders due to use of sedatives or hypnotics |
|                                         | F14 Mental and behavioral disorders due to use of cocaine |
|                                         | F16 Mental and behavioral disorders due to use of hallucinogens |
|                                         | F18 Mental and behavioral disorders due to use of volatile solvents |
|                                         | F19 Mental and behavioral disorders due to multiple drug use and use of other psychoactive substances |
| Category used in this study                  | Pharmacological agents and corresponding ATC codes                                                                 |
|---------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| Lithium                                     | Lithium N05AN01, Valproate N03AG01, Lamotrigine N03AX09                                                      |
| First generation antipsychotics            | Haloperidol N05AD01, ZIPLOPENTIXOL N05AF05, Flupentixol N05AF01, Perphenazine N05AB03                       |
| Second generation antipsychotics           | Clozapine N05AH02, Risperidone N05AX08, Olanzapine N05AH03, Ziprasidone N05AE04, Quetiapine N05AH04, Aripiprazole N05AX12, Paliperidone N05AX13, Lurasidone N05AE05 |
| Antidepressants                             | Citalopram N06AB04, Escitalopram N06AB10, Sertraline N06AB06, Paroxetine N06AB05, Fluoxetine N06AB03, Fluvoxamine N06AB08, Mirtazapine N06AX11, Reboxetine N06AX18, Agomelatine N06AX22, Bupropion N06AX12, Vortioxetine N06AX26, Venlafaxine N06AX16, Duloxetine N06AX21, Clomipramine N06AA04, Amitriptyline N06AA09, Nortriptyline N06AA10, Mianserin N06AX03 |
| Benzodiazepines                             | Oxazepam N05BA04, Alprazolam N05BA12, Lorazepam N05BA06, Nitrazepam N05CD02, Diazepam N05BA01, Klonazepam N03AE01, Flunitrazepam N05CD03 |
| Anxiolytics                                 | Hydroxyzine N05BB01, Promethazine R06AD02, Alimemazine R06AD01, Buspiron N05BE01                            |
| Central stimulants                          | Metylfenidat N06BA04, Dexamfetamin N06BA02, Lisdexamfetamin N06BA12                                       |
**eTable 3. Electroconvulsive Therapy (ECT) Settings**

| Electrode placement (%) | First ECT in the index series | Last ECT in the index series |
|-------------------------|-------------------------------|------------------------------|
| Unilateral              | 372 (65%)                     | 393 (69%)                    |
| Bitemporal              | 190 (33%)                     | 166 (29%)                    |
| bifrontal               | 8 (1%)                        | 8 (1%)                       |
| Pulse width (mean)      | 0.5 ms (SD, 0.14 ms)          | 0.55 ms (SD, 0.17 ms)        |
| Frequency (mean)        | 62 Hz (SD, 20 Hz)             | 68 Hz (SD, 20.6 Hz)          |
| Duration (mean)         | 6.7 s (SD, 1.3 s)             | 6.9 s (SD, 1.2 s)            |
| Current (mean)          | 840 mA (SD, 51 mA)            | 842 mA (SD, 51 mA)           |
| Charge (mean)           | 355 mC (SD, 161 mC)           | 429 mC (SD, 198 mC)          |
| Seizure duration        | 44 s (SD, 24 s)               | 37 s (SD, 18 s)              |
| according to EEG (mean) |                              |                              |

| Anaesthesia (n, %)      |                               |                              |
|-------------------------|-------------------------------|------------------------------|
| Thiopental              | 311 (54.5%)                   |                              |
| Propofol                | 174 (30.5%)                   |                              |
| Remifentanil            | 8 (1.4%)                      |                              |
| Ketamin                 | 1 (0.2%)                      |                              |
| Other                   | 4 (0.8%)                      |                              |

Information on ECT settings was missing for 53–73 (12–16%) individuals.
### eTable 4. Logistic Regression Analysis of Factors Associated With Good or Very Good Response in Women

| Variable                                | Univariate | Multivariate |
|-----------------------------------------|------------|--------------|
|                                        | n         | OR (95% CI) | p-value | OR (95% CI) | p-value |
| **Age, years**                          |           |             |         |             |         |
| 14–25                                   | 33        | Reference   |          |             |         |
| 26–40                                   | 113       | 1.63 (0.61-4.38) | 0.33 | 2.62 (0.78-8.76) | 0.12 |
| 41–60                                   | 134       | 1.99 (0.74-5.31) | 0.17 | 2.80 (0.81-9.67) | 0.10 |
| 61–89                                   | 80        | 1.53 (0.54-4.30) | 0.42 | 1.63 (0.41-6.46) | 0.49 |
| **Education**                           |           |             |         |             |         |
| Less than high school                   | 159       | Reference   |          |             |         |
| High school                             | 64        | 0.88 (0.38-2.05) | 0.77 | 0.82 (0.32-2.12) | 0.67 |
| Some college < 3 years                  | 51        | 1.08 (0.41-2.85) | 0.88 | 1.06 (0.36-3.13) | 0.92 |
| College ≥ 3 years                       | 74        | 0.68 (0.32-1.44) | 0.31 | 0.51 (0.21-1.23) | 0.14 |
| Missing                                 | 12        | 0.43 (0.11-1.73) | 0.24 | 0.95 (0.14-6.26) | 0.96 |
| **Cohabiting**                          |           |             |         |             |         |
| No                                      | 192       | Reference   |          |             |         |
| Yes                                     | 165       | 1.06 (0.58-1.95) | 0.84 | 1.22 (0.56-2.63) | 0.62 |
| Missing                                 | 3         | 0.08 (0.01-0.93) | 0.04 | 0.01 (0.00-1.06) | 0.05 |
| **Type of mania**                       |           |             |         |             |         |
| Mania without psychosis                 | 119       | Reference   |          |             |         |
| Mania with psychosis                    | 199       | 1.05 (0.53-2.10) | 0.89 | 0.94 (0.36-2.45) | 0.90 |
| Mixed episode                           | 42        | 0.36 (0.15-0.85) | 0.02 | 0.50 (0.18-1.36) | 0.17 |
| **Substance abuse disorder**            |           |             |         |             |         |
| No                                      | 291       | Reference   |          |             |         |
| Yes                                     | 69        | 0.74 (0.36-1.49) | 0.39 | 0.73 (0.31-1.71) | 0.47 |
| **Anxiety disorder**                    |           |             |         |             |         |
| No                                      | 274       | Reference   |          |             |         |
| Yes                                     | 86        | 0.38 (0.20-0.71) | 0.002 | 0.46 (0.20-1.05) | 0.06 |
| **Personality disorder**                |           |             |         |             |         |
| No                                      | 300       | Reference   |          |             |         |
| Yes                                     | 60        | 0.60 (0.29-1.22) | 0.16 | 0.93 (0.42-2.10) | 0.87 |
| **OCD**                                 |           |             |         |             |         |
| No                                      | 347       | Reference   |          |             |         |
| Yes                                     | 13        | 0.17 (0.06-0.54) | 0.003 | 0.09 (0.02-0.31) | 0.001 |
| **ADHD**                                |           |             |         |             |         |
| No                                      | 339       | Reference   |          |             |         |
| Yes                                     | 21        | 0.68 (0.22-2.12) | 0.51 | 1.39 (0.25-7.65) | 0.71 |
| **Autism**                              |           |             |         |             |         |
| No                                      | 350       | Reference   |          |             |         |
| Yes                                     | 10        | 0.65 (0.13-3.16) | 0.59 | 0.47 (0.06-3.80) | 0.48 |
| **Compulsory psychiatric care**         |           |             |         |             |         |
| No                                      | 103       | Reference   |          |             |         |
| Yes                                     | 202       | 1.62 (0.82-3.20) | 0.17 | 0.90 (0.37-2.21) | 0.82 |
| Missing                                 | 55        | 0.71 (0.31-1.62) | 0.41 | 0.43 (0.12-1.58) | 0.20 |
| No                                      | 118       | Reference   |          |             |         |
| ECT treatment prior to index ECT | Yes | 168 | 0.92 (0.46-1.85) | 0.81 | 1.12 (0.52-2.45) | 0.77 |
|---------------------------------|-----|-----|------------------|-----|------------------|-----|
| Missing                         | 74  | 0.68 (0.31-1.53) | 0.36 | 1.29 (0.32-5.13) | 0.72 |
| Severity according to CGI-S     |     |     |                  |     |                  |     |
| Mildly–moderately ill           | 30  | 1.45 (0.55-3.83) | 0.46 | 1.25 (0.43-3.61) | 0.68 |
| Markedly ill                    | 115 | 2.09 (0.80-5.46) | 0.13 | 1.77 (0.56-5.60) | 0.33 |
| Severely ill                    | 165 | 4.87 (0.93-25.62)| 0.06 | 7.13 (0.66-77.61)| 0.11 |
| Among the most extremely ill    | 34  | 4.57 (0.51-40.92)| 0.18 | 41.43 (0.66-1097.99)| 0.03 |
| Missing                         | 16  | 1.29 (0.54-3.07) | 0.57 | 1.46 (0.55-3.83) | 0.45 |
| Number of ECT in the index series |     |     |                  |     |                  |     |
| 1-5                             | 105 | 1.43 (0.74-2.78) | 0.29 | 1.57 (0.71-3.48) | 0.27 |
| 6-9                             | 190 | 1.29 (0.54-3.07) | 0.57 | 1.46 (0.55-3.83) | 0.45 |
| >9                              | 65  | 1.29 (0.54-3.07) | 0.57 | 1.46 (0.55-3.83) | 0.45 |
| Age of onset                    |     |     |                  |     |                  |     |
| <21                             | 78  | 1.60 (0.60-4.29) | 0.35 | 0.90 (0.27-3.03) | 0.86 |
| <26                             | 63  | 1.09 (0.49-2.42) | 0.84 | 0.80 (0.31-2.04) | 0.64 |
| <36                             | 103 | 1.69 (0.63-4.51) | 0.30 | 1.52 (0.47-4.89) | 0.48 |
| >35                             | 66  | 1.05 (0.40-2.75) | 0.92 | 0.94 (0.28-3.15) | 0.92 |
| Psychopharmacotherapy prior to index admission |     |     |                  |     |                  |     |
| Lithium                         |     |     |                  |     |                  |     |
| No                              | 232 | 0.76 (0.41-1.39) | 0.37 | 0.82 (0.43-1.60) | 0.57 |
| Yes                             | 128 | 0.56 (0.25-1.25) | 0.16 | 0.71 (0.29-1.72) | 0.45 |
| Lamotrigine                     |     |     |                  |     |                  |     |
| No                              | 318 | 0.88 (0.32-2.40) | 0.80 | 0.71 (0.29-1.72) | 0.45 |
| Yes                             | 42  | 0.66 (0.36-1.20) | 0.18 | 0.85 (0.42-1.73) | 0.66 |
| Antipsychotics, first generation|     |     |                  |     |                  |     |
| No                              | 328 | 0.96 (0.41-2.28) | 0.93 | 0.93 (0.36-2.40) | 0.89 |
| Yes                             | 48  | 0.67 (0.36-1.23) | 0.20 | 0.80 (0.38-1.66) | 0.54 |
| Valproate                       |     |     |                  |     |                  |     |
| No                              | 312 | 0.66 (0.34-1.29) | 0.23 | 0.79 (0.35-1.80) | 0.58 |
| Yes                             | 82  | 1.08 (0.54-2.17) | 0.83 | 1.16 (0.54-2.52) | 0.70 |
| Benzodiazepines                 |     |     |                  |     |                  |     |
| No                              | 247 | 0.99 (0.18-8.40) | 0.99 | 1.02 (0.08-12.95)| 0.99 |
| Yes                             | 7   | 0.67 (0.36-1.23) | 0.20 | 0.80 (0.38-1.66) | 0.54 |
ADHD, attention-deficit hyperactivity disorder; CGI-S, Clinical Global Assessment Severity Scale; CI, confidence interval; ECT, electroconvulsive therapy; OCD, obsessive-compulsive disorder; OR, odds ratio; SD, standard deviation.
**eTable 5. Logistic Regression of Factors Associated With Good or Very Good Response in Men**

|                                | Univariate          | Multivariable       |
|--------------------------------|---------------------|---------------------|
|                                | n                  | OR (95% CI) | p-value | OR (95% CI) | p-value |
| Age, years                     |                     |             |         |             |         |
| 14–25                          | 41                  | Reference    |         |             |         |
| 26–40                          | 48                  | 0.47 (0.15-1.48) | 0.20   | 0.18 (0.03-1.15) | 0.07   |
| 41–60                          | 83                  | 0.91 (0.29-2.82) | 0.87   | 0.71 (0.11-4.48) | 0.72   |
| 61–89                          | 39                  | 0.35 (0.11-1.14) | 0.08   | **0.07 (0.01-0.71)** | **0.03** |
| Education                      |                     |             |         |             |         |
| Less than high school          | 89                  | Reference    |         |             |         |
| High school                    | 56                  | 0.93 (0.41-2.11) | 0.86   | 2.48 (0.82-7.54) | 0.11   |
| Some college < 3 years         | 28                  | 3.30 (0.72-15.20) | 0.13   | **8.63 (1.48-50.35)** | **0.02** |
| College ≥ 3 years              | 29                  | 1.59 (0.49-5.13) | 0.44   | 3.80 (0.66-21.94) | 0.14   |
| Missing                        | 9                   | 0.89 (0.17-4.64) | 0.89   | -           |         |
| Cohabiting                     |                     |             |         |             |         |
| No                             | 119                 | Reference    |         |             |         |
| Yes                            | 87                  | 1.37 (0.65-2.87) | 0.41   | 1.80 (0.46-7.14) | 0.40   |
| Missing                        | 5                   | 0.36 (0.06-2.28) | 0.28   | -           |         |
| Type of mania                  |                     |             |         |             |         |
| Mania without psychosis        | 64                  | Reference    |         |             |         |
| Mania with psychosis           | 132                 | 1.21 (0.57-2.58) | 0.63   | 0.73 (0.22-2.44) | 0.61   |
| Mixed episode                  | 15                  | 1.66 (0.33-8.28) | 0.54   | 0.66 (0.09-4.92) | 0.68   |
| Substance abuse disorder       |                     |             |         |             |         |
| No                             | 148                 | Reference    |         |             |         |
| Yes                            | 63                  | 1.06 (0.49-2.28) | 0.89   | 0.86 (0.28-2.64) | 0.80   |
| Anxiety disorder               |                     |             |         |             |         |
| No                             | 181                 | Reference    |         |             |         |
| Yes                            | 30                  | **0.86 (0.33-2.27)** | **0.76** | **0.32 (0.08-1.36)** | **0.12** |
| Personality disorder           |                     |             |         |             |         |
| No                             | 192                 | Reference    |         |             |         |
| Yes                            | 19                  | 4.30 (0.56-33.22) | 0.16   | 191.69 (13.76-1270.71) | <0.001 |
| OCD                            |                     |             |         |             |         |
| No                             | 205                 | Reference    |         |             |         |
| Yes                            | 6                   | **0.43 (0.08-2.42)** | **0.34** | **0.44 (0.04-4.31)** | **0.48** |
| ADHD                           |                     |             |         |             |         |
| No                             | 198                 | Reference    |         |             |         |
| Yes                            | 13                  | 1.22 (0.26-5.76) | 0.80   | 4.03 (0.54-30.09) | 0.17   |
| Autism                         |                     |             |         |             |         |
| No                             | 206                 | Reference    |         |             |         |
| Yes                            | 5*                  | -            | -       | -           | -      |
| Compulsory psychiatric care    |                     |             |         |             |         |
| No                             | 38                  | Reference    |         |             |         |
| Yes                            | 140                 | 1.58 (0.66-3.77) | 0.30   | 1.09 (0.20-6.03) | 0.92   |
| Missing                        | 33                  | 1.40 (0.44-4.45) | 0.57   | 0.77 (0.10-5.93) | 0.80   |
| No                             | 78                  | Reference    |         |             |         |
| Variable                                               | Yes       | Missing  | OR (95% CI)   | p-value | OR (95% CI)   | p-value |
|--------------------------------------------------------|-----------|----------|---------------|---------|---------------|---------|
| **ECT treatment prior to index ECT**                   | 90        | 43       | 1.11 (0.52-2.37) | 0.79    | 0.49 (0.16-1.47) | 0.20    |
| **Severity according to CGI-S**                        |           |          |               |         |               |         |
| Mildly–moderately ill                                  | 9         | Reference|               |         |               |         |
| Markedly ill                                          | 66        |          | 7.00 (1.60-30.66) | 0.01    | 256.00 (24.30-2697.11) | <0.001  |
| Severely ill                                           | 86        |          | 4.72 (1.15-19.41) | 0.03    | 80.06 (7.68-834.56) | <0.001  |
| Among the most extremely ill                          | 37        |          | 10.31 (1.93-55.05) | 0.006   | 396.17 (27.93-5620.34) | <0.001  |
| Missing                                                | 13        |          | 15.00 (1.33-169.87) | 0.03    | 288.95 (9.47-8815.21) | 0.001   |
| **Number of ECT in the index series**                  | 1-5       | 59       | Reference     |         |               |         |
| 6-9                                                    | 115       |          | 2.93 (1.35-6.36) | 0.007   | 4.67 (1.54-14.18) | 0.007   |
| >9                                                     | 37        |          | 2.81 (0.94-8.39) | 0.06    | 11.43 (1.10-119.07) | 0.04    |
| **Age of onset**                                       |           |          |               |         |               |         |
| <21                                                    | 54        |          | Reference     |         |               |         |
| <26                                                    | 48        |          | 1.02 (0.34-3.06) | 0.97    | 1.25 (0.29-5.33) | 0.76    |
| <36                                                    | 31        |          | 0.73 (0.23-2.32) | 0.59    | 1.28 (0.23-7.16) | 0.78    |
| >35                                                    | 44        |          | 0.59 (0.21-1.66) | 0.32    | 2.11 (0.25-17.81) | 0.49    |
| Missing                                                | 34        |          | 0.67 (0.22-2.06) | 0.49    | 0.32 (0.07-1.44) | 0.14    |
| **Psychopharmacotherapy prior to index admission**     |           |          |               |         |               |         |
| Lithium                                                | No        | 137      | Reference     |         |               |         |
| Yes                                                    | 74        |          | 1.41 (0.65-3.03) | 0.38    | 1.92 (0.49-7.60) | 0.35    |
| Lamotrigine                                            | No        | 195      | Reference     |         |               |         |
| Yes                                                    | 16        |          | 0.63 (0.19-2.08) | 0.45    | 0.74 (0.05-11.10) | 0.83    |
| Antipsychotics, first generation                       | No        | 200      | Reference     |         |               |         |
| Yes                                                    | 11        |          | 0.36 (0.10-1.29) | 0.12    | 0.07 (0.01-0.88) | 0.04    |
| Antipsychotics, second generation                      | No        | 122      | Reference     |         |               |         |
| Yes                                                    | 89        |          | 1.00 (0.49-2.04) | 0.99    | 0.50 (0.17-1.48) | 0.21    |
| Valproate                                              | No        | 184      | Reference     |         |               |         |
| Yes                                                    | 27        |          | 1.30 (0.42-4.02) | 0.64    | 0.44 (0.07-2.84) | 0.39    |
| Benzodiazepines                                        | No        | 174      | Reference     |         |               |         |
| Yes                                                    | 37        |          | 1.17 (0.45-3.02) | 0.76    | 1.10 (0.26-4.72) | 0.90    |
| Antidepressants                                        | No        | 173      | Reference     |         |               |         |
| Yes                                                    | 38        |          | 0.45 (0.20-1.02) | 0.06    | 0.77 (0.19-3.13) | 0.72    |
| Anxiolytics                                            | No        | 186      | Reference     |         |               |         |
| Yes                                                    | 25        |          | 2.76 (0.62-12.25) | 0.18    | 4.34 (0.89-21.19) | 0.07    |

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| Central stimulants | Yes | 4 | 0.21 (0.03-1.54) | 0.13 | 0.05 (0.00-1.70) | 0.09 |

ADHD, attention-deficit hyperactivity disorder; CGI-S, Clinical Global Assessment Severity Scale; CI, confidence interval; ECT, electroconvulsive therapy; OCD, obsessive-compulsive disorder; OR, odds ratio; SD, standard deviation.

*all 5 patients with autism responded to ECT