HEALTH CARE FOR WOMEN INTERNATIONAL
https://doi.org/10.1080/07399332.2025.2568222

Routledge
Taylor & Francis Group



# Electroconvulsive therapy and women: An international survey

Lisa Morrison[a], Sue Cunliffe[b], Sarah Price Hancock[c], Chrstopher Harrop[d], Lucy Johnstone[e] and John Read[f]

[a]Lisa Morrison Training and Consultancy, ECT Recipient, Belfast, UK; [b]Independent Researcher, ECT Recipient, Worcestershire, UK; [c]Ionic Injury Foundation, ECT Recipient, San Diego, USA; [d]Clinical Psychologist, Independent Researcher, Woking, UK; [e]Consultant Clinical Psychologist, Independent Researcher, Bristol, UK; [f]Department of Psychology and Human Development, University of East London, London, UK

**ABSTRACT**

858 electroconvulsive therapy (ECT) recipients, from 44 countries, responded to an online survey. In keeping with previous studies, the majority (73%) were women. Most of the psychiatrists giving ECT (81%) were men. Women patients were less likely than men to report improved mood following ECT. Consistent with previous smaller studies, women patients also reported worse outcomes than men for multiple adverse effects, including anterograde and retrograde memory loss, and for how "harmful" ECT was in general. Even fewer women (15%) than men (29%) said they would want to have ECT again. Implications are discussed.

**ARTICLE HISTORY**
Received 22 May 2025
Accepted 25 September 2025

Electroconvulsive therapy is given to about a million people annually, predominantly women. Previous researchers have established that women are more likely to suffer memory loss than men as a result of this treatment. Our research team, of three women who have received ECT and three clinical psychologists, designed an online survey, based on the work of previous researchers and the experiences of the three ECT recipients. We found greater risks to women, beyond just memory loss, and also addressed a range of other issues of importance to the women participants, including efficacy, coercion, information given before ECT, reasons ECT was given, and the sex of the psychiatrists involved. This is the largest international survey of ECT recipients conducted to date, with responses from over 800 people from 44 countries. We hope it will encourage greater awareness, in the public, female patients and their families, and professionals, about the issues involved.

**CONTACT** John Read john@uel.ac.uk Department of Psychology and Human Development, University of East London, London, UK.

## Background

ECT is a procedure which passes electricity through the brain, under general anesthetic, to cause a generalized, tonic-clonic seizure. An initial course of treatment involves repeating the procedure six to 12 times, over several weeks. Approximately one million people receive ECT annually (Leiknes et al., 2012), including about 2500 in England (Read et al., 2018, 2021). ECT remains controversial (Read et al., 2019a). A meta-analysis found that researchers' beliefs about ECT varied from "probably ineffective but certainly causes brain damage…through to those who think it is the most effective treatment in psychiatry and completely safe" (UK ECT Review Group, 2003, p. 799).

There have only ever been 11 placebo-controlled depression studies comparing ECT with "sham"/"simulated" ECT (SECT) (Read et al., 2019b), in which the general anesthetic is administered but the electricity and convulsion withheld. The most recent was forty years ago (Gregory et al., 1985). A review, coauthored by Dr Irving Kirsch, Associate Director of Harvard Medical School's Department of Placebo Studies, found that all 11 studies failed to comply with today's methodological standards (Read et al., 2019b). It concluded:

> Four of the 11 found ECT significantly superior to SECT at the end of treatment, five found no difference and two found that psychiatrists reported a difference and patients did not. Neither of the only two high Quality studies reporting data at one or six months post-treatment produced a significant difference between ECT and SECT and, when combined, they produced a very small pooled effect (0.017) in favour of SECT.… There is no evidence that ECT is effective for its target demographic – older women, or its target diagnostic group – severely depressed people, or for suicidal people.

### *ECT and women*

For the purposes of this study, "women" refers to biological females and "men" refers to biological males, and "sex differences" refers to the data in relation to these two categories. There is, to the best of our knowledge, no data about the use of ECT among people who identify as transgender or gender-fluid.

An international review (Leiknes et al., 2012, p. 295) reported that in 42 of 49 reports more than 50% of ECT recipients were women. In 19 of the studies women were at least twice as likely to receive ECT as men. The eight studies in the United States found that between 66% and 79% of ECT patients were women. The five in Australasia ranged from 63% to 71%. The 19 studies in Europe ranged from 44% to 81%, with only two of the 19 being under 56%, both in Turkey. The 13 Asian studies produced a more varied picture, with five of the 13 finding that women were a minority of ECT patients and the other eight ranging from 51% to 88% women.

Table 1 lists the first 50 studies from a *Medline* search in May 2025 (and references in papers found therein) for studies published since the 2011 review, with an *n* of at least 50. It includes 51 reports (one paper contained two reports) of naturally occurring samples of ECT recipients with mixed diagnoses, i.e. national and regional surveys and registries, studies of naturalistic, real-life populations, from 33 countries. It excludes reports on samples with specific diagnoses, including depression. Reports using the same data set as another report were excluded.

In 45 of the 51 reports (88%) women constituted more than 53.0% of ECT recipients (see Table 1). Three of the other six were from hospitals in which the most common diagnosis was "schizophrenia" or "psychotic disorders" (Canbek et al., 2013; Cortez-Vergara et al., 2016; Martin et al., 2024b). The fourth was from a hospital in Iran with a mix of unreported diagnoses (Haghighi et al., 2016). The fifth found that although only 45.5% of ECT recipients at a hospital in China were women, "multiple regression analyses, including diagnosis and age, found that being female was independently associated with receipt of ECT" (Ma et al., 2019). The sixth was a study of 118 adolescents, in Sweden (Rask et al., 2023).

Twenty seven of the 51 reports (53%) found that women constituted 60% or more of ECT recipients. In nine (18%) at least twice as many women as men received ECT (≤66.7%).

The weighted average of the 49 reports providing raw data is 61.2% women (84,372/138,372).

Besides the six low outliers mentioned above (all below 46%) there were two high outliers, (above 72%); a national survey of South Africa (Benson-Martin & Milligan, 2015) and a study of adolescents in a Chinese hospital (Chen et al., 2022). Excluding these eight outliers produces a weighted average of 62.3% (80,477/129,244).

The median of the 51 studies is 60.4% (60.5% without the outliers). This is consistent with a survey of 124 international ECT sites, which found a median of 60% women (Rohde et al., 2024).

In most countries, ECT is also targeted at older people (Leiknes et al., 2012). The average age of ECT recipients in England, Northern Ireland, Wales, and the Republic of Ireland is 61.2 years (Royal College of Psychiatrists, 2023). In England 58% are over 60 years old (Read et al., 2021). In the USA 73% of recipients are at least 50 years old (Luccarelli et al., 2021). The modal ECT patient is, therefore, an older woman.

### *Memory loss*

All ECT researchers acknowledge it causes short-term memory loss. Some acknowledge that this can be long-term. A 2003 review (Rose et al., 2003) identified four studies ($n = 703$) that asked patients about "persistent or

**Table 1.** Percentage of ECT recipients who are women: post 2011 publications.

| | | | | |
|---|---|---|---|---|
| Chen et al., 2022[a] | 2015–21 | China | 85.3% | 237/278 |
| Benson-Martin & Milligan, 2015 | 2011–12 | South Africa | 72.8% | 810/1112 |
| Dennis et al., 2017 | 1998–2013 | USA | 69.6% | 11606/16668[e] |
| Sakayori et al., 2025 | 2016 | Japan | 68.9% | 334/485 |
| Sigström et al., 2025 | 2014–16 | Sweden | 68.8% | 68/99 |
| Martin et al., 2024a | 2009–19 | Scotland | 68.4% | 3301/4826 |
| Alvarez-Grandi et al., 2013 | 2003–2012 | New Zealand | 67.3% | 134/199 |
| Royal College of Psychiatrists | 2021 | England, Ireland, N. Ireland, Wales | 67.1% | 1230/1833 |
| Read et al., 2021 | 2019 | England | 66.7% | 1200/1799 |
| Read et al., 2018 | 2011–15 | England | 66.1% | 2579/3901 |
| Schweder et al., 2011 | 2004 | Norway | 65.7% | 259/394 |
| Antosik-Wojcinska et al., 2021 | 2005 | Poland | 65.0% | ?[d] |
| Knight et al., 2018 | 2009–14 | Canada | 64.0% | 4685/7323 |
| Hajak et al., 2021 | 2018–20 | Germany | 63.7% | 100/157 |
| Hranov et al., 2012 | 2010 | Bulgaria | 63.4% | 73/115 |
| Nordanskog et al., 2015 | 2013 | Sweden | 63.0% | 2502/3972 |
| Plakiotis et al., 2012 | 2007 | Australia | 62.6% | 950/1518 |
| Santos et al., 2013 | 1988–2008 | Brazil | 62.5% | 125/200 |
| Salagre et al., 2022 | 2008–19 | Denmark | 62.2% | 10166/16333 |
| Chu et al., 2018 | 2000 | Tawain | 61.8% | 614/994 |
| Spanggård et al., 2023 | 2006–16 | Denmark | 61.5% | 7243/11780 |
| Antosik-Wojcinska et al., 2021 | 2020 | Poland | 61.0% | ?[d] |
| Li et al., 2023 | 2016–21 | China | 60.5% | 127/210 |
| Lõokene et al., 2014 | 2010 | Estonia | 60.5%[c] | 219/362 |
| Gillving et al., 2024 | 2012–2019 | Sweden | 60.4% | 4229/6996 |
| Gazdag et al., 2013 | 1999–2010 | Hungary | 60.4% | 276/457 |
| Rahangdale & Ferraro, 2024 | 2016–21 | USA | 60.1% | 383/637 |
| Göterfelt et al., 2020 | 2012–19 | Sweden | 59.7% | 9965/16681 |
| Chen et al., 2024 | 2013–22 | Australia | 58.8% | 2038/3465 |
| Lee et al., 2024 | 2008–18 | S Korea | 58.8% | 1864/3172 |
| Luccarelli et al., 2023a | 2019–20 | USA | 58.5% | 8330/14230 |
| Sumia et al., 2021 | 2013 | Finland | 58.2% | 525/902 |
| Iliuta et al., 2024 | 2013–23 | Romania | 57.8% | 144/249 |
| Suzuki et al., 2017 | 2004–15 | Japan | 57.7% | 138/239 |
| Luccarelli et al., 2021 | 2000–17 | USA | 57.4% | 2095/3648 |
| Pereira-Soares et al., 2025 | 2015–19 | Brazil | 55.9% | 133/238 |
| Vera et al., 2016 | 2012 | Spain | 55.7% | 1721/3090 |
| Küçükosman et al., 2018 | 2007–11 | Saudi Arabia | 55.4% | 107/193 |
| Kaliora et al., 2013 | 2007 | Greece | 54.7% | 75/137 |
| González et al., 2023 | 2009–17 | Columbia | 54.5% | 78/143 |
| Luccarelli et al., 2023b[a] | 2019 | USA | 54.0% | 170/315 |
| Al Saadi et al., 2022 | 2015–19 | Oman | 53.6% | 96/179 |
| Mota et al., 2021 | 2008–15 | Portugal | 53.4% | 469/879 |
| Karayağmurlu et al., 2020 | 2011–17 | Turkey | 53.2% | 33/62 |
| Tor et al., 2020 | 2016 | Singapore | 53.1% | 93/175 |
| Ma et al., 2019 | 2014–17 | China | 45.5% | 1120/2460 |
| Martin et al., 2024b[b] | 2009–20 | Australia | 45.1% | 305/677 |
| Cortez-Vergara et al., 2016[b] | 2001–11 | Peru | 40.3% | 150/372 |
| Canbek et al., 2013[b] | 2008–10 | Turkey | 38.7% | 1352/3490 |
| Rask et al., 2023[a] | 2012–16 | Sweden | 38.1% | 45/118 |
| Haghighi et al., 2016 | 2014–15 | Iran | 38.0% | 236/621 |
| WEIGHTED AVERAGE | | | 61.2% | 84732/138372 |

[a]children and adolescents.
[b]Hospital where the most common diagnosis of ECT recipients were "schizophrenia" or "psychotic disorder".
[c]See Table 3 in Lõokene et al. (Abstract incorrectly states females = 17%).
[d]National Survey, Poland; no raw data provided; percentages only. Not included in Weighted Average.
[e]Estimated based on individual treatments - 116,056/166,681- divided by ten (approximate number of treatments per patient).

permanent memory loss" and found a range of 29% to 55%, and an average of 38%. A more recent meta-synthesis of 16 studies found that:

> … in 15 papers, participants described complete erasure of their memory of events and experiences that occurred prior to, and sometimes immediately after, having ECT. Some participants described not remembering specific important life events, like a son's birth or their mother's death. For others memory loss was extensive: "the past 25 years are missing". This memory loss was usually considered permanent. (Wells et al., 2021)

The American Psychiatric Association (APA, 2025) acknowledges that "some individuals may report having memory problems that remain for months or years, or even permanently."

A few studies have tested for sex differences in memory loss. A landmark prospective study (Sackeim et al., 2007) found that immediately after ECT women were significantly more impaired than men on "global cognitive function", "attention", "anterograde learning and memory" and "autobiographical memory" (retrograde amnesia). Six months later the women remained significantly more impaired than men on attention, anterograde learning and memory, and autobiographical memory. At the six month follow up significantly more women (16.1%) than men (6.2%) were classified as having "marked and persistent retrograde amnesia".

A national survey of all ECT treatments in Scotland between 2009 and 2019 found, based on medical records, that women were 1.3 times more likely than men to have "memory problems" ($p = 0.028$), and 1.7 times more likely to have general "cognition" problems ($p < 0.0001$), because of ECT (Martin et al., 2024a). A study of 1,212 patients from the *Swedish National Quality Register for ECT* found "subjective memory worsening" immediately after ECT, in 18% of men but 31% of women ($p < 0.001$) (Brus et al., 2017).

### *Other adverse effects*

There are many other adverse effects besides cognitive deterioration (Johnstone, 1999; Read et al., 2025d; Wells et al., 2021). Little is known about sex differences in these other adverse effects.

While many assume that memory and other cognitive deficits are the most concerning effects, others argue that "Most major complications caused by ECT are related to the cardiovascular system" (Hermida et al., 2022). A recent review (Read, 2024) concluded:

> The probability of ECT causing one or more of six cardiac events (myocardial infarction, life-threatening arrhythmia, acute pulmonary edema, pulmonary embolism, acute heart failure and cardiac arrest) is between one in 15 and one in 30 patients, and that these cardiac events are a major cause of ECT-related deaths.

The national survey of Scotland cited above (Martin et al., 2024a) found no sex difference in likelihood of cardiovascular problems, which is consistent with an earlier study (Webb et al., 1990).

One study found that men are more likely than women to suffer "postictal agitation" (i.e. caused by the seizures) immediately after ECT (Allen et al., 2022). A recent study of 168 patients aged 60 or older found that 22% of the women and 19% of the men experienced "postictal delirium" as a result of ECT; a non-significant difference (Wu et al., 2025).

### *Efficacy*

Two meta-analyses have found that ECT is no more effective in alleviating depression in women than it is in men (Haq et al., 2015; van Diermen et al., 2018). This was confirmed by a recent 20-site study of 500 depressed ECT recipients (Blanken et al., 2023). Studies including multiple diagnoses have also found no sex differences in efficacy (Bolu et al., 2015; Manohar et al., 2017; Martin et al., 2024a).

### *Information*

ECT is given, on average, to more women than men. It seems clear that memory loss is more frequent in women. Despite, this, none of the patient leaflets at 36 ECT clinics in England stated that memory loss is more common in women; nor did the Royal College of Psychiatrists' information sheet (Harrop et al., 2021). In the rest of the UK, however, 52% of sites did so (Read et al., 2023a). The current survey found that only 39 of 730 ECT recipients (5.3%) had been told that women are "more likely to have memory problems" (Read et al., 2025a). The data reported below builds a more detailed picture of women's experience of ECT.

## Methods

This project used the same methods as online surveys about psychiatric medications (Cartwright et al., 2016; Larsen-Barr et al., 2018; Moncrieff et al., 2024; Read et al., 2014, 2017, 2023b; Read & Sacia, 2020; Read & Williams, 2019). It was approved by the Ethics and Integrity Sub- Committee of the University of East London (ETH2324-0160).

### *Instrument*

A questionnaire was designed for the project, based on the work of previous researchers, briefly summarized above, and the experiences of the three women on the research team who had received ECT. *Mind*, the UK's largest

mental health charity, commented on a draft. The structure of the survey is based on the surveys used in the studies of other psychiatric treatments, referenced above. There are quantitative questions with multiple choice or Likert scale responses, and qualitative questions inviting written responses.

Questions cover demographics; year, country, type and number of ECTs; reasons ECT was given; positive and adverse effects; the self-reported causes of the problems for which ECT had been prescribed; and information given before ECT. The responses to the information questions have been published (Read et al., 2025a), as have those about efficacy (Read et al., 2025b), memory loss (Read et al., 2025c) and other adverse effects (Read et al., 2025d).

The survey was designed to take 25 to 30 min to complete. There was a possible maximum of 84 questions, depending on how many follow up questions were triggered. Questions were not mandatory.

Potential participants confirmed "I am at least 18 years old" and "I have either had ECT (but not in the last 4 wk) or am a friend or relative with an understanding of the impact of ECT on my friend or relative". A Participant Information Sheet included sources of support in case participants were distressed by the survey. After the Participation Information Sheet, participants gave informed consent by ticking the following box: "I hereby freely and fully consent to participate in the study which has been explained to me, and for the anonymous information obtained to be used in relevant research publications."

The survey, and the administration and reporting thereof, meets all applicable criteria of the Consensus-Based Checklist for Reporting of Survey Studies (Sharma et al., 2021).

### *Procedure*

The questionnaire was disseminated from January to September 2024 *via* the online survey tool Qualtrics. Mental health organizations in multiple countries, in six continents, were contacted. For example, the 44 national mental health groups listed as members of Mental Health Europe (www.mentalhealtheurope.org) were emailed the announcement and link, with a request to disseminate them to their members and other mental health groups in their countries. In the UK, the mental health charity *Mind* disseminated the survey *via* local branches and members with experience of mental health problems. It was also widely disseminated on social media.

### *Data analysis*

1,211 surveys were returned with at least some questions answered. After deleting 67 unusable responses (including 55 repeat responders), 1,144

responses remained for analysis, comprised of 858 ECT recipients and 286 relatives/friends. Only the recipients' responses are reported here.

Differences between sexes, and relationships between sex and other variables, were assessed using two-tailed t-tests or chi squares ($X^2$). Because of the number of analyses the probability level required for significance was set at ≤ 0.01 rather than the traditional < 0.05, to minimize Type One errors (false positives).

### Sample characteristics

#### Demographics

The 858 ECT recipients were from 44 countries, covering six continents. The majority (83%) had their most recent ECT in the USA (46%), the UK (14%), Australia (11%), Canada (8%), Spain (2%) or New Zealand (2%). Of the 826 who answered, "What is your gender?", 602 (72.9%) replied "female", 189 (22.9%) "male", and 35 (4.2%) identified as "non-binary/third gender". The last group involved too small a number, of a rather heterogenous category, for meaningful analysis, so the paper only includes the 791 who identified as male or female. Most self-identified as "white" (87.2%). The average age at time of last ECT was 36.9 years (with a range of 12 to 79). There was no significant age difference between women (36.6) and men (38.1). Most respondents had their first (65%) and last (73%) course of ECT between 2010 and 2024.

#### Number and type of ECTs

Of the 803 responding to the relevant question, 270 (33.6%) had had only one course of ECT, 235 had had between two and five (29.3%), 103 between six and ten (12.8%), and 195 "more than 10" (24.3%). Of the 771 people answering the question about individual ECTs in the most recent course, 116 (15.0%) had received between one and five ECTs, 260 (33.7%) between six and ten, 262 (34.0%) between 11 and 20, and 133 (17.3%) "more than 20". Of the 544 who knew which electrode placement was used in their most recent series of ECT, 126 reported unilateral (23.2%) and 418 bilateral (76.8%).

## Results

### Efficacy

On four of the five questions addressing effectiveness/helpfulness, women fared worse than men. Only one of the differences reached the 0.01 level of significance set for this study.

#### *During the treatment, what effect did ECT have on your mood?*

Men's mood improved significantly more than women's. The scale was from 1 = "much better" to 5 = "much worse". Men (2.62) scored significantly better than women (2.97) ($t = 2.92$, df = 684, $p = 0.004$)

#### *How would you describe the problems/symptoms for which ECT was prescribed, just after the end of the treatments, compared to just before?*

The problems/symptoms for which ECT had been prescribed were slightly more improved for the women than the men. On a scale from 1 – "very much worse", to 7 – "very much improved", with a mid-point of 4 –"no change", the women's mean score (3.87) was on the negative side of the mid-point, while the men's mean score (4.18), was on the positive side of the mid-point, but the difference between the two means was nonsignificant ($p = 0.09$).

#### *How did ECT affect your overall quality of life?*

Women reported somewhat more negative impacts on quality of life than men. On a scale from 1 – "very much improved" to 7 – "very much worse", women produced a higher mean (4.91) than men (4.48), but the difference ($p = 0.03$) did not reach the 0.01 level.

#### *During the treatment, what effect did ECT have on how suicidal you felt?*

ECT had roughly the same effect on suicidality in women and men. 32.0% of the women said "less suicidal" and 19.9% said "more suicidal", a 12.1% difference in favor of "less". Whereas 34.8% of the men said "less" and 14.9% said "more", a 19.7% difference in favor of "less". The difference between women and men did not approach significance ($p = 0.35$).

#### *Overall, how helpful was ECT?*

Women reported that, overall, ECT was somewhat more helpful than the men. This was the only question to ask about efficacy without offering responses indicating harm as well as benefit. It had four options (1 –"very", 2 –"somewhat", 3 – "slightly", 4 – "not at all"). The women's mean (2.93) was more positive than that of the men (3.16) but the difference did not reach the 0.01 level of significance ($p = 0.05$).

### *Adverse effects*

#### *Overall, how harmful was ECT?*

Women found ECT significantly more harmful, overall, than men. In response to the question *"Overall how harmful was ECT?"* (1 – "very", 2 – "somewhat", 3 – "slightly", 4 – "not at all"), women (mean = 1.73) scored significantly worse than men (2.08), ($t = 3.71$, df = 228.5, $p < 0.001$).

### Memory loss

Women reported more memory loss than men. Overall memory loss was addressed by participants' responses to two items from the Comprehensive Psychopathological Rating Scale (CPRS) (Sigström et al., 2020). The CPRS assesses memory, on a seven-point scale prior to the first treatment in a course and after the last one (from 0 –"memory as usual" to 6 – "complete inability to remember"). The women's mean score deteriorated by 2.41 points, and the men's by 1.91 ($t = 2.52$, df 726, $p = 0.012$). The CPRS defines "change" as a deterioration of at least two scale points (Sigström et al., 2020). This occurred for 63.7% of the women and 53.0% of the men (a non-significant difference).

Respondents were asked about retrograde amnesia, with the question "*What effect did ECT have on your ability to remember events in your life that happened before your ECT*? (1 = "much worse", 3 = "about the same", 5 = "much better"). Women (1.60) scored significantly worse than men (1.89), $t = 3.70$, df = 675, $p < .001$.).

In response to a similar question about anterograde amnesia, "*What effect did ECT have on your ability to recall things that have just happened?*", women (1.85) again scored significantly worse than men (2.11) ($t = 2.99$, df = 670, $p = 0.003$).

### Other adverse effects

Participants were given a list of 25 other adverse events and asked to respond with "1 – not at all", "2 – mild", 3 – "moderate", or "4 – severe". On 22 of the effects, women produced a higher mean than men. The relationship with being female was significant for the following seven effects: "losing train of thought" "difficulty concentrating" "sensitivity to light" "sensitivity to noise" "difficulty driving" "difficulty navigating" and "fatigue". For example, 82.1% of women reported fatigue (33.5% severe), compared to 68.0% of men (20.3% severe) ($X^2 = 18.4$, $p < 0.001$).

The women reported other adverse effects at approximately the same rate as men, including "emotional blunting" (76.4%), "relationship problems" (67.8%), "loss of independence" (67.2%), "falling over" (40.3%) and "heart problems" (22.9%).

When asked "*Have you suffered brain damage as a result of ECT?*" the men and women were not significantly different. 27.8% of the women said "yes", 22.6% "no" and 49.6% were "not sure". 33.6% of the men said "yes", 27.0% "no" and 39.4% were "not sure".

### Total adverse effects

A Total Adverse Effects (TAE) score was calculated for the recipients who had responded in full to 24 of the 25 adverse effect questions. ("Headaches"

was excluded because it was added late). TAE had a potential range of 24 (24 × 1) to 96 (24 × 4). Women produced a higher mean TAE (52.0) than men (48.1). This was not quite significant, by the 0.01 level set for this study ($t = 2.14$, df = 569, $p = 0.03$)

## Administration

### Precursors

There were no sex differences in how many people had tried *"antidepressants or other psychiatric medications"* before ECT (overall 94.5%), or how many had tried *"psychological therapy/counselling"* (overall 72.9%). Nor were there any differences in level of depression prior to ECT (overall 70.2% reported "severe"), or in how many were *"having suicidal thoughts or feelings in the month before your last series of ECT"* (overall 68.0%).

### Reasons for ECT

There were no significant differences between women and men in how many participants selected, as a reason for ECT, "depression" (78.4% vs 78.3% respectively), or "psychosis/schizophrenia" (13.3% vs 14.8%), or "bipolar disorder/mania" (18.1% vs 12.2%). Men (8.5%) endorsed "catatonia" significantly more often than women (3.5%) ($X^2 = 7.99$, $p = 0.005$)

### Type and frequency

Women reported significantly more individual treatments in their last course (mean = 11.74 vs 10.21) ($t = 2.58$, df = 630, $p < 0.01$). There were no differences in number of courses of ECT, or total number of individual ECTs over all courses. More women than men reported being given bilateral ECT in their last course (78.9% vs 69.8%), but the difference did not reach significance ($p = 0.06$).

### Coercion and pressure

Women reported being pressured to have ECT more than men. Of the 628 who answered the relevant question, significantly more men (33.3%) than women (20.2%) "asked to have ECT" ($X^2 = 10.6$, $p < 0.001$). Fewer of the women (49.9%) described their involvement as "voluntary", than men (63.5%). More women selected "gave consent under pressure" (36.8% vs 22.4%). Similar numbers (13.3% women, 14.1% men) were administered ECT "without my consent/against my will". In combination (scoring these three questions as 1, 2 and 3 respectively) the differences showed that ECT was less voluntary for women, and more pressured, than was the case for men ($X^2 = 11.5$, df = 2, $p = 0.003$).

### Causal factors

Women reported more adverse childhood adversities (ACEs) (mean = 3.47) than men (2.86), ($t = 2.52$, df = 668, $p = 0.012$). Specifically, women reported significantly more sexual abuse (44.6% vs 22.4%) ($X^2$ = 24.3, $p < 0.001$), and emotional neglect (46.9% vs 33.6%) ($X^2$ = 8.52, $p = 0.004$).

58.8% of women and 44.1% of men thought that childhood adversities had "contributed to the problem(s) for which [they] were given ECT", either "somewhat" or "a lot" (versus "not at all" or "a little"). The difference ($p = 0.013$) did not quite reach the $p < 0.01$ level set for this paper.

There was no sex difference in how many recipients had been asked about childhood adversities by mental health services (overall, 31.1%). There was also no sex difference, among those who reported one or more ACEs, in how many felt their childhood adversities had been "therapeutically addressed" by mental health services (overall, 25.5%).

Women did not report more recent stressors than men overall, but did report the specific stressor "rape/sexual assault" more often (6.8% vs 1.1%; $X^2$ = 9.3, $p = 0.002$). Overall, 76.5% believed that one or more recent stressors contributed to the problem(s) for which they were given ECT? but there was no sex difference. There were also no sex differences in how many had been asked about recent stressors (34.5% overall), or in how many felt their stressors had been addressed (24.8% overall).

### Information

Women reported receiving less adequate information about ECT than men, before having it. Of the 679 people who answered, "Were you given adequate information before having ECT?" 20.2% of women said "yes", 60.9% no, and 18.9% were "not sure". Men's responses were: 36.1% "yes", 56.1% "no", 7.7% "not sure". Of the 568 who were sure, 24.9% of the women said "yes", compared to 39.2% of the men ($X^2$ = 10.6%), $p = 0.001$).

Women were somewhat less informed on all the issues studied (eg risk of heart problems, higher risks from bilateral ECT), but the only statistically significant one was "ECT can cause long-term or permanent memory problems" (women 15.7%, men 34.0%; $X^2$ = 22.3, $p < 0.001$).

Only 5.4% of women were told that women are more likely than men to experience memory problems after ECT (compared to 9.0% of men; a nonsignificant difference).

### Recommending ECT

Of the 566 who expressed a view in response to "*Would you recommend ECT to a friend or relative, if a psychiatrist thought they needed it?*",

significantly fewer women (18.4%) than men (33.1%) said "yes" ($X^2$ = 13.1, $p < 0.001$). Similarly, of the 508 who expressed a view in response to "*Would you want to have ECT again, if a psychiatrist thought you needed it?*", 15.2% of the women said "yes", compared to 29.2% of the men ($X^2$ = 14.3, $p < 0.001$)

### *Psychiatrists*

For the 649 who could remember, the psychiatrist who gave their most recent ECT was far more often male (80.6%) than female (19.4%). In 59.7% of cases the psychiatrist was male and the recipient female. In only 4.5% of cases was the psychiatrist female and the recipient male. In the USA, the psychiatrist giving ECT was even more likely to be male (87.6%) than in all other countries combined (73.7%) ($X^2$ = 20.3, $p < 0.001$). In 67.7% of cases in the USA, the psychiatrist was male and the recipient female; whereas the psychiatrist was female and the recipient male in 2.7% of cases.

Of the 533 ECT recipients who could recall whether they received "adequate information", this was the case for 29.7% of the cases where the psychiatrist was male and 43.7% where the psychiatrist was female ($X^2$ = 14.4, $p < 0.001$). The largest difference in terms of specific information items (Read et al., 2025a) was that 24.5% of recipients with female psychiatrists were informed that "ECT can cause heart problems", compared to 10.4% with male psychiatrists ($X^2$ = 15.5, $p < 0.001$).

Patients reported that male psychiatrists were slightly less likely to have provided "adequate information" to female patients (22.9%) than to male patients (27.6%), but this difference was not statistically significant. Several differences relating to specific pieces of information were in the same direction but also did not reach significance, including male psychiatrists being less likely to tell women than men that "ECT can cause heart problems" (8.5% vs 15.0%, $p = 0.06$). Male psychiatrists were significantly less likely to tell women than men that "ECT can cause long-term or permanent memory problem" (14.9% vs 29.6%, $X^2$ = 11.44, $p < 0.001$)

The 414 who remembered whether they were monitored for memory or other cognitive adverse effects were analyzed for possible predictors. The sex of the patient was unrelated to being monitored. However, monitoring was significantly more likely to have taken place if the psychiatrist who gave the ECT was a woman (24/67, 35.8%) rather than a man (64/347, 18.4%) ($X^2$ = 10.1, $p < 0.001$).

When patients told their psychiatrists about the adverse effects, the only significant sex difference in responses to being told was that male psychiatrists were significantly less likely to have "developed a rehabilitation plan to treat the adverse effects" (1.3%) than female psychiatrists (6.5%) ($X^2$ = 8.5, $p = 0.004$), but the male psychiatrists were equally unlikely to do this with their male and female patients.

Male psychiatrists were equally likely as female psychiatrists to use ECT "without my consent/against my will", and equally likely to do so with their female and male patients.

### *Trauma and fear*

The survey asked an open question about positive and negative effects. 53 responses (not all women) were categorized as increased "Fear/Anxiety" and 61 as "Abuse/Violated/Traumatised" (Read et al., in press). Table 2 gives examples of women's experiences.

## Discussion

### *Efficacy*

Overall, the majority of ECT recipients received either no benefit or a negative outcome on the five efficacy measures used (55% to 71%) (Read et al., 2025b). Contrary to previous studies (see Background), it seems that when patients are asked directly about the benefits of ECT some sex differences emerge. It also seems these responses vary according to how efficacy is asked about. Given that the archetypal ECT recipient is a depressed woman, it is particularly noteworthy that women were significantly less likely than men to report a lift in mood.

### *Adverse effects*

The findings of the current study confirm previous studies showing that women tend to suffer greater adverse effects from ECT than men. More than half of the women (56.2%) described ECT as "very harmful", compared to 43.5% of the men. More than half the women (58.1%) selected "very much worse" to describe the retrograde amnesia they experienced as a result of ECT, and just under half (45.2%) did the same in relation to anterograde amnesia. For both types of memory loss, the women fared significantly worse than the men. Also, most of the women (63.7%) met the criteria of a two-point deterioration on the CPRS measure of overall memory loss, but this was not significantly greater than for the men.

Possible partial explanations for the greater cognitive damage experienced by the women in this study are that they reported significantly more individual administrations of ECT in their most recent course and were subjected to slightly more bilateral than unilateral ECT, two variables known to be related to greater damage (APA, 2025, p. 185; Sackeim et al., 2007). But the bilateral finding was not significant ($p = 0.06$) and among those who had only one course of ECT (a more meaningful subsample because it avoids confounding by previous courses) women did not have

**Table 2.** Examples of women's experiences, in their own words, categorized as "Abuse/Violated/Traumatised" or "Fear/Anxiety".

| Experience | Age (Yrs), Country |
|---|---|
| *Retraumatised. Held down and body "done to" against my will* | 50, UK |
| *Trauma, because I was scared to but did it under pressure* | 38, Australia |
| *Trauma due to compulsory ECT* | 26, Denmark |
| *Severe trauma from the experience* | 47, Sweden |
| *Triggered past experiences of abuse* | 48, UK |
| *I developed PTSD now* | 45, USA |
| *The abuse at the hospital was extremely triggering and worsened my PTSD* | 26, Canada |
| *As someone with a history of childhood abuse and rape, knowing I was given ECT so many times without proper facts and other options for addressing the cause of my depression, self-harm and suicidality, feels like being raped all over again* | 42, UK |
| *I felt violated in a way that shouldn't be possible. Our memories should be inviolable. Over time I came to see that this was just another rape, but of my mind. Part of me was stolen, violently. ECT was abuse* | 35, Australia |
| *ECT made my anxiety worse* | 30, UK |
| *Terror of experiencing it again* | 28, Canada |
| *I live in fear of this happening to me again. Just 2 years ago I narrowly missed being detained by psychiatry and my GP was saying she thought I should have ECT. I was terrified* | 31, Australia |
| *Mortal fear before getting the next ECT* | 18, Austria |
| *I woke up in one session not able to breathe or move. Terrifying.* | 68, USA |
| *I was scared every time I did it* | 44, Norway |

more individual treatments. Another potential explanation might have been age, but there was no significant difference in age between men and women in our sample.

A third plausible explanation involves well-established principles of electromagnetism and human anatomy. Smaller anatomy amplifies the electric field because fields between close electrodes are more intense than electrical fields between farther spaced electrodes. On average, women have smaller skulls and thinner skull bones than men (Del Bove et al., 2023). Consequently, it is plausible that ECT generates a stronger electrical dosage intensity in women than men, even with identical electrode placement.

Prominent ECT researcher Harold Sackeim, the first to demonstrate greater damage to women in a prospective study, has a different but related explanation for his finding:

> Women have a substantially lower seizure threshold than men and electrical dosage was not adjusted in most cases relative to the individual patient's seizure threshold. This pattern of gender differences might reflect the fact that electrical dosage was more markedly suprathreshold in women (Sackeim et al., 2007)

Sackeim is not alone in raising the suprathreshold explanation for the greater cognitive dysfunction found in women ECT recipients (Mosti & Brook, 2019). It is well established that cognitive damage in ECT is directly related to the extent to which the dosage exceeds the seizure threshold (McCall et al., 2000). The fact that women have lower seizure thresholds has been known for at least thirty years (Coffey et al., 1995) and was

recently restated by the APA (2025, pp. 191, 194). So, the same dosage will cause more damage in women, on average, because any given dose will exceed seizure threshold by a greater amount for women than for men.

Rajagopalan et al. (2023) note that in both the Sackeim et al. (2007) and Brus et al. (2017) studies, both of which found greater cognitive deficits in women, the electrical dosage was not moderated based on individuals' seizure threshold, but on formula-based stimulus dosing, so that female patients were more likely to receive suprathreshold dosing compared to the males. They added:

> In contrast, our study found an association between female sex and improvements in MoCA. This association may be due to our use of dose titration according to seizure threshold rather than formula-based dosing avoiding suprathreshold dosing of female patients.

However, selecting a dosage of electricity that simultaneously ensures a seizure and minimal cognitive damage for women (or in general), is extraordinary difficult, if not impossible. "Patients have marked variability (as much as fiftyfold) in the electrical threshold for eliciting an adequate seizure" and multiple other factors besides sex effect threshold, including "electrode placement, stimulation parameters, anesthetic dosage, and concomitant medications", plus age (APA, 2025, p. 191). The A.P.A. also notes that "The risk of an excessive stimulus dose is higher in older adults, especially women" (p. 194).

This is part of a much larger problem. After 80 years of ECT use, a leading ECT researcher admitted that "the best way to administer ECT with regard to optimizing therapeutic benefit and simultaneously minimizing cognitive side-effects is not known" (McLoughlin, 2018). It seems women may suffer a disproportionate share of the damage caused by this ignorance.

### *Trauma*

Our findings relating to trauma and coercion are consistent with a study of 20 British ECT recipients (Johnstone, 1999), which found:

> A variety of themes emerged, including feelings of fear, shame and humiliation, worthlessness and helplessness, and a sense of having been abused and assaulted. This had reinforced existing problems and led to distrust of psychiatric staff. Few had felt able to tell professionals of the strength of their reactions, implying a possible hidden pool of trauma…. Three of the women identified themselves as survivors of child sexual abuse. Of these, two drew explicit parallels between these early experiences and the experience of being given ECT, in terms of the emotions experienced at the time, confusingly mixed feelings towards both psychiatrists and original abusers, and inability to deal with their own powerful feelings of helplessness and rage afterwards.

A more recent study, of 21 women ECT recipients in Norway (Coman & Bondevik, 2024), noted that "A subgroup of nine participants described more negative experiences with ECT. A common factor for these participants was the experience of trauma that remained under-treated."

A recent survey of 515 psychiatrists in the UK (88% women) found that the most cited contributor (59%) to "mental illness in their female patients" was "violence and abuse" (Royal College of Psychiatrists, 2023). The same percentage of women in the current study (59%) thought their childhood adversities had been a causal factor in the problems for which they had been given ECT. Only one in four of those women thought psychiatric services had addressed those adversities.

### *Incidence*

The proportion of female respondents (73%) confirms the long standing, international pattern of disproportionate prescribing of ECT to women. An explanation frequently offered by ECT researchers for this consistent pattern is that it merely reflects the fact that more women than men experience depression, ECT's primary diagnostic target group.

We note, first, that a major justification for the use of ECT is the claim that ECT prevents suicide. If ECT was prescribed only or primarily on a clinical need to prevent suicide, men, who are far more likely to die by suicide, would be the primary recipients (Centers for Disease Control and Prevention, 2025; Office for National Statistics, 2024).

We also note that women are disproportionately given ECT for other diagnoses, including those, like "schizophrenia", which are assigned to males and female in broadly equal numbers. All 51 reports listed in Table 1, with a weighted average of 61% women, are of real-world samples from ECT recipients, with *mixed* diagnoses, not just depression. In the current study, women predominated across all diagnostic groupings, not just depression: "bipolar disorder/mania" – 83%, "depression" – 76%, "psychosis/schizophrenia" – 74%, "catatonia" – 57%; and "other" – 82% and "don't know" – 68%. Similarly, a recent survey of 4826 patients in Scotland found that in four diagnostic groupings (other than depression) women predominated (between 61% and 81%), the exception being "schizophrenia" (46%). Again, "other" diagnoses also found a preponderance of women (80%) (Martin et al., 2024a).

We have already noted the study of 13,831 hospitalized patients in China, in which being female predicted getting ECT independently of diagnosis and age (Ma et al., 2019). Another Chinese study, of 5,162 patients all diagnosed with "schizophrenia", found that "multiple logistic regression analyses of the whole sample revealed that patients receiving ECT were more likely to be women" (Li et al., 2017). Another found that

61% of 951 people diagnosed with "schizophrenia" receiving ECT were women (Yang et al., 2023). Studies in Hungary (Gazdag et al., 2013), Lithuania (Lõokene et al., 2014) and Taiwan (Rajagopalan et al., 2023) reported that 57%–61% of ECT recipients were women, despite the majority of ECT recipients being diagnosed with "schizophrenia". A national survey of Canadian inpatients with a "schizophrenia spectrum" diagnosis, found that 40.4% of the 70,337 admissions not including ECT were women, but 53.5% of the 1,862 ECT recipient admissions were women (Kaster et al., 2025).

Returning to the sex difference in incidence of depression, we should note that the difference does not emerge till adolescence and then reduces with age until disappearing by about age 65 (Albert, 2015; Cyranowski et al., 2000; Kuehner, 2017; Patten et al., 2006). The sex difference, from adolescence through middle age, may be partly an artifact of women "ruminating" about, talking about, and seeking help for, feeling depressed, more than men. Also, doctors and others may sometimes be more likely to diagnose depression in women. A major explanation of sex difference in depression, however, is that women are subjected to more stressors and more depressing events and circumstances than men. A recent summary of a vast body of research (Burton, 2025) succinctly stated:

> Women come under greater stress than men. Although they go to work just like men, they also bear the brunt of running a home, bringing up children, and caring for elderly or disabled relatives—and after all that, still have to put up with all the sexism!

A comprehensive review, in *Lancet Psychiatry,* (Kuehner, 2017) put it this way:

> Part of the gender gap [*in depression rates*] might be explained by heightened exposure to severe adversity, particularly childhood sexual abuse and other violence against women and girls, and to structural gender inequity, measured at the macro or societal level…. Relatedly, the degree of structural gender equality, measured at the macro or state level in terms of political participation, economic autonomy, and reproductive rights, affects the gender ratio in depression. Women in US states with lower gender equality report more depressive symptoms than those from states with higher gender equality.

These psycho-socio-political causal factors are probably more effectively addressed by alternatives to ECT, rather than by electricity and seizures.

All these issues surrounding women being given ECT more often than men have been raised many times before, sometimes vehemently (Burstow, 2006):

> Psychiatrists who promote shock frequently defend the ratio by arguing that shock is most commonly given for depression and that women are depressed approximately 2 to 3 times more often than men. And there is some truth in the position. Indeed,

> given a sexist society, women have reason to be more depressed. … Moreover women are electroshocked 2 to 3 times as often as men irrespective of whether or not they are depressed, irrespective of diagnosis.

### *Psychiatrists*

Burstow saw the disproportionate use of ECT on women as an example of the same sexism that contributes to their disproportionate levels of depression in the first place. The disproportionate number of male psychiatrists giving ECT found by our survey is consistent with her argument.

Can our surprising finding that 81% of ECT psychiatrists are male (88% in the USA) be partially explained by psychiatrists in general being predominantly male? In the UK, in 2021, 49% of consultant psychiatrists and 54% of non-consultants were women, which is 51% combined. In the USA, however, women were only 38% of "practicing psychiatrists" and 51% of "psychiatry residents", or 40% when combined, in 2016, (Wyse et al., 2020). In Australia, in 2023, 43% of psychiatrists were women.

Proportions of women psychiatrists were lower in previous decades. The proportion of ECT given to our respondents by male psychiatrists in the last ten years (2015—2024) was 75%, compared to the overall 81% figure. So, yes, the preponderance of ECT psychiatrists being male is partially, but by no means completely, explained by the preponderance of men in the profession in some countries, at least in the past.

It is worth noting, however, that an international survey of 592 "ECT providers" found that only 36% overall were women (Rohde et al., 2024), with percentages lowest in the USA (29%) and Australia (20%), where women psychiatrists make up much higher percentages of the workforce than 29% and 20%. In the USA (Luccarelli et al., 2025):

> Female physicians made up 39% of psychiatrists overall who bill Medicare, but 23% of psychiatrists billing for ECT. Fifty percent of billed ECT treatments were performed by 12% of ECT doctors; among these high-volume ECT providers, 16% were female.

None of this alters the fact that, for whatever reason, a scenario of *male psychiatrist/female patient* was 13 times more likely than a *female psychiatrist/male patient* situation; and 25 times more likely in the USA. ECT seems to be something done, predominantly, by men to women.

Nor does it alter the fact that the male psychiatrists were reported to have told fewer women than men about ECT's risk of permanent, long-term memory loss, despite women being more likely to suffer that loss.

Finally, we should note that two studies have found that depressed women receive significantly fewer antidepressant drug trials than men before being given ECT (Bloch et al., 2005; Bolu et al., 2015).

A useful frame for all these findings might be Medical Misogyny (Cleghorn, 2021; Rosenbaum, 2024). Certainly, misogyny within psychiatry

has a long and well documented history (Burstow, 2006; Busfield, 1996; Chesler, 1972; Crabtree, 2004; Johnstone, 2000; Masson, 1986; Read & Beavan, 2013; Showalter, 1985).

### *Limitations*

Responses were reliant on memory, sometimes for events long ago, and ECT causes memory loss in many people (Read et al., 2025c).

Self-selection and potential bias are limitations, particularly given the online recruitment strategy and the polarized views on ECT. Sample bias toward people who had a *positive* outcome was possible, in four forms. Those for whom ECT did not alleviate the severe depression for which it is often prescribed might be unable to complete, or uninterested in, a survey. Second, those whose suicidality was not alleviated by ECT, and who took their own lives, could not respond. Third, patients who died due to ECT-induced cardiovascular events (Read, 2024) could not participate. Fourth, some people in whom ECT caused severe cognitive damage may have been unable to participate.

Alternatively, or in addition, sample bias toward those for whom ECT had a *negative* outcome may have occurred. Some of the researchers who advertised the survey on social media have critiqued ECT in research papers and online. So perhaps people dissatisfied with ECT were more likely to participate in the study, or those who did participate exaggerated the adverse effects. To try to minimize any such bias, social media postings included phrases like "Positive, mixed and negative experiences are all equally valued".

Although 5.5% of responses were considered problematic and discarded (see Data Analysis) it is possible that some people who were not ECT recipients completed the survey. Mental health professionals were requested "not to complete the survey nor complete it on behalf of their patients/clients". Some completions by professionals may have occurred. There may have been other motivations for fake completions. We did not take steps to prevent "research bots" (Martino & Perrotta, 2025). The absence of financial incentive for participation hopefully reduced the probability of fake completions.

We did not recruit adequately from non-English speaking countries beyond North America, Europe and Australasia, and there is, therefore, a preponderance of Anglophone, high-income countries.

## Conclusion

Our findings, in conjunction with the work of other researchers, documented above, suggest that the high use of ECT on women might be best understood from a feminist, trauma-informed perspective. Given the

relative lack of efficacy, the very high rates of multiple adverse effects, the coercion and the lack of information, it is, perhaps, unsurprising that even fewer women than men want to have ECT again. Information about sex differences in risks, seizure thresholds and outcomes should be routinely given to female patients and their families. This information could also be taken into account when deciding whether to prescribe ECT to women rather than offering alternative treatments that address the reasons that more women are depressed than men.

## Acknowledgments

We thank the hundreds of people who completed the survey, and acknowledge that for some this may have been a stressful experience. We also thank all the individuals and organizations around the world that disseminated the survey. Special appreciation goes to the remarkable UK charity *Mind* for its assistance in the design and dissemination of the survey.

## Ethics statement

The study was approved by the Ethics and Integrity Sub-Committee of the University of East London (ETH2324-0160). All participants gave informed consent by ticking a box indicating that they had read and understood the Participant Information Sheet at the outset of the survey.

## Authors contributions

All authors made a significant contribution to this work. All contributed to the conception and design of the study and to the acquisition of data. JR analyzed the data and drafted the article. LM, LJ, SPH, SC & CH critically reviewed that draft. All authors agreed on the originally submitted version of the article and the revised version. All authors take responsibility for and are accountable for the contents of the article.

## Disclosure statement

Dr Read has been a paid expert witness in ECT legal cases in the USA and Canada. The other authors have no conflicts of interest.

## Funding

No funding was involved with this study.

## Data availability statement

The data set is still being used for other papers. It contains multiple highly personal stories, some of which may be identifying. Participants have not given permission for their data to be shared.

## ORCID

John Read http://orcid.org/0000-0002-5159-1192

## References

Al Saadi, A., Chan, M., Al-Kaabi, S., Al Shukaili, M., Al-Mamari, F., Al Abdali, M., Al Fazari, Z., & Al-Huseini, S. (2022). Demographic and clinical profile of patients receiving electroconvulsive therapy at a tertiary care hospital in Oman: A cluster analysis. *Oman Medical Journal*, *37*(4), e401–e401. https://doi.org/10.5001/omj.2022.82

Albert, P. (2015). Why is depression more prevalent in women? *Journal of Psychiatry & Neuroscience: JPN*, *40*(4), 219–221. https://doi.org/10.1503/jpn.150205

Allen, N., Allison, C., Golebiowski, R., Janowski, J., LeMahieu, A., Geske, J., & Rasmussen, K. (2022). Factors associated with postictal agitation after electroconvulsive therapy. *The Journal of ECT*, *38*(1), 60–61. https://doi.org/10.1097/YCT.0000000000000807

Alvarez-Grandi, S., de la Barra, S. L., Seifert, A., & Glue, P. (2013). Electroconvulsive therapy use in Otago, New Zealand: A 10-year retrospective audit of patient-level treatment data. *Australian & New Zealand Journal of Psychiatry*, *48*(6), 548–553.

American Psychiatric Association (APA). (2025). *The practice of ECT: A task force report* (3rd ed.). A.P.A.

Antosik-Wojcinska, A. Z., Dominiak, M., Mierzejewski, P., Jazdzyk, P., Gazdag, G., Takacs, R., & Wichniak, A. (2021). Changes in the practice of electroconvulsive therapy in Poland: A nationwide survey comparing data between 2005 and 2020. *Neuropsychiatric Disease and Treatment*, *17*, 605–612. https://doi.org/10.2147/NDT.S296210

Benson-Martin, J., & Milligan, P. (2015). A survey of the practice of electroconvulsive therapy in South Africa. *The Journal of ECT*, *31*(4), 253–257. https://doi.org/10.1097/YCT.0000000000000239

Blanken, M. A. J. T., Oudega, M. L., Hoogendoorn, A. W., Sonnenberg, C. S., Rhebergen, D., Klumpers, U. M. H., Van Diermen, L., Birkenhager, T., Schrijvers, D., Redlich, R., Dannlowski, U., Heindel, W., Coenjaerts, M., Nordanskog, P., Oltedal, L., Kessler, U., Frid, L. M., Takamiya, A., Kishimoto, T., … Dols, A. (2023). Sex-specifics of ECT outcome. *Journal of Affective Disorders*, *326*, 243–248. https://doi.org/10.1016/j.jad.2022.12.144

Bloch, Y., Ratzoni, G., Sobol, D., Mendlovic, S., Gal, G., & Levkovitz, Y. (2005). Gender differences in electroconvulsive therapy: A retrospective chart review. *Journal of Affective Disorders*, *84*(1), 99–102. https://doi.org/10.1016/j.jad.2004.10.002

Bolu, A., Ozselek, S., Akarsu, S., Alper, M., & Balikci, A. (2015). Is there a role of gender in electroconvulsive therapy response? *Klinik Psikofarmakoloji Bülteni-Bulletin of Clinical Psychopharmacology*, *25*(3), 228–232. https://doi.org/10.5455/bcp.20150207075355

Brus, O., Nordanskog, P., Båve, U., Cao, Y., Hammar, Å., Landén, M., Lundberg, J., & Nordenskjöld, A. (2017). Subjective memory immediately following electroconvulsive therapy. *The Journal of ECT*, *33*(2), 96–103. https://doi.org/10.1097/YCT.0000000000000377

Burstow, B. (2006). Electroshock as a form of violence against women. *Violence against Women*, *12*(4), 372–392. https://doi.org/10.1177/1077801206286404

Burton, N. (2025). The 7 reasons why depression is more common in women. *Psychology Today*, https://www.psychologytoday.com/gb/blog/hide-and-seek/201205/the-7-reasons-why-depression-is-more-common-in-women?eml

Busfield, J. (1996). *Men, women and madness*. Macmillan.

Canbek, O., Menges, O., Atagun, M., Kutlar, M., & Kurt, E. (2013). Report on 3 years' experience in electroconvulsive therapy in Bakirkoy Research and Training Hospital for Psychiatric and Neurological Diseases: 2008–2010. *The Journal of ECT*, *29*(1), 51–57. https://doi.org/10.1097/YCT.0b013e318282d126

Cartwright, C., Gibson, K., Read, J., Cowan, O., & Dehar, T., (2016). Long term antidepressant use: Patients' perspectives of benefits and adverse effects. *Patient Preference and Adherence*, *10*, 1401–1407. https://doi.org/10.2147/PPA.S110632

Centers for Disease Control and Prevention. (2025). *Suicide prevention*. https://www.cdc.gov/suicide/facts/data.html#cdc_data_surveillance_section_5-suicide-rate-disparities

Chen, T., Loo, C., Salvador-Carulla, L., Jorm, L., Srasuebkul, P., Sara, G., Quiroz, J., & Gallego, B. (2024). Factors associated with electroconvulsive therapy treatment for adults with serious psychiatric conditions in Australia. *The Australian and New Zealand Journal of Psychiatry*, *58*(9), 809–820. https://doi.org/10.1177/00048674241266067

Chen, X., Fu, Y., Zou, Q., Zhang, Y., Qin, X., Tian, Y., Yan, Y., Chen, Q., Zou, L., Zhao, B., & Li, X. (2022). A retrospective case series of electroconvulsive therapy in the management of depression and suicidal symptoms in adolescents. *Brain and Behavior*, *12*(11), e2795. https://doi.org/10.1002/brb3.2795

Chesler, P. (1972). *Women and madness*. Avon.

Chu, C., Chien, W., Chung, C., Chao, P., Chang, H., Kao, Y., Chou, Y., & Tzeng, N. (2018). Electroconvulsive therapy and risk of dementia - a nationwide cohort study in Taiwan. *Frontiers in Psychiatry*, *9*, 397. https://doi.org/10.3389/fpsyt.2018.00397

Cleghorn, E. (2021). *Unwell women: A journey through medicine and myth in a man-made world*. Weidenfeld & Nicolson.

Coffey, C., Lucke, E., Weiner, R., Krystal, A., & Aque, M. (1995). Seizure threshold in electroconvulsive therapy: I. Initial seizure threshold. *Biological Psychiatry*, *37*(10), 713–720. https://doi.org/10.1016/0006-3223(95)00262-F

Coman, A., & Bondevik, H. (2024). The ethical imperative of trauma-sensitive care for electroconvulsive therapy. *Journal of Mental Health*, *33*(2), 177–184. https://doi.org/10.1080/09638237.2023.2210650

Cortez-Vergara, C., Cruzado, L., Rojas-Rojas, I., Sánchez-Fernández, M., & Ladd-Huarachi, G. (2016). Características clínicas de pacientes tratados con terapia electroconvulsiva en un hospital público de Perú. *Revista Peruana de Medicina Experimental y Salud Pública*, *33*(1), 100–105. https://doi.org/10.17843/rpmesp.2016.331.1940

Crabtree, S. A. (2004). Strategies of social and sexual control of Malaysian women in psychiatric institutional care. *Health Care for Women International*, *25*, 581–595.

Cyranowski, J., Frank, E., Young, E., & Shear, M. (2000). Adolescent onset of the gender difference in lifetime rates of major depression: A theoretical model. *Archives of General Psychiatry*, *57*(1), 21–27. https://doi.org/10.1001/archpsyc.57.1.21

Del Bove, A., Menéndez, L., Manzi, G., Moggi-Cecchi, J., Lorenzo, C., & Profico, A. (2023). Mapping sexual dimorphism signal in the human cranium. *Scientific Reports*, *13*(1), 16847. https://doi.org/10.1038/s41598-023-43007-y

Dennis, N., Dennis, P., Shafer, A., Weiner, R., & Husain, M. (2017). Electroconvulsive therapy and all-cause mortality in Texas, 1998-2013. *The Journal of ECT*, *33*(1), 22–25. https://doi.org/10.1097/YCT.0000000000000340

Gazdag, G., Takács, R., Tolna, J., Iványi, Z., Ungvari, G., & Bitter, I. (2013). Electroconvulsive therapy in a Hungarian academic centre (1999-2010). *Psychiatria Danubina*, *25*(4), 366–370.

Gillving, C., Ekman, C., Hammar, Å., Landén, M., Lundberg, J., Movahed, R., Nordanskog, P., von Knorring, L., & Nordenskjöld, A. (2024). Seizure duration and electroconvulsive

therapy in major depressive disorder. *JAMA Network Open*, *7*(7), e2422738. https://doi.org/10.1001/jamanetworkopen.2024.22738

González, A., Sabogal, G., Dimas, S., Avendaño, P., Carrascal, P., Polanco, I., & Escudero, A. (2023). Clinical experience of electroconvulsive therapy with anaesthetic and muscle relaxant at the Clínica Universidad de La Sabana: 2009-2017. *Revista Colombiana Psiquiatria (Engl Ed)*, *52*, 101–106.

Göterfelt, L., Ekman, C., Hammar, Å., Landén, M., Lundberg, J., Nordanskog, P., & Nordenskjöld, A. (2020). The incidence of dental fracturing in electroconvulsive therapy in Sweden. *The Journal of ECT*, *36*(3), 168–171. https://doi.org/10.1097/YCT.0000000000000652

Gregory, S., Shawcross, C., & Gill, D. (1985). The Nottingham ECT study. *British Journal of Psychiatry*, *146*(5), 520–524. https://doi.org/10.1192/bjp.146.5.520

Haghighi, M., Sedighine, A., Naderi, B., Emiralavi, C., Biazar, G., Mirmozaffari, K., Zahedan, C., & Jafari, M. (2016). The incidence and predictors of headache and myalgia in patients after electroconvulsive therapy. *Anesthesiology and Pain Medicine*, *6*(3), e33724. https://doi.org/10.5812/aapm.33724

Hajak, V., Hajak, G., Ziegelmayer, C., Grimm, S., & Trapp, W. (2021). Risk assessment of electroconvulsive therapy in clinical routine: A 3-year analysis of life-threatening events in more than 3,000 treatment sessions. *Frontiers in Psychology*, *12*, 767915. https://doi.org/10.3389/fpsyg.2021.767915

Haq, A., Sitzmann, A., Goldman, M., Maixner, D., & Mickey, B. (2015). Response of depression to electroconvulsive therapy: A meta-analysis of clinical predictors. *The Journal of Clinical Psychiatry*, *76*(10), 1374–1384. https://doi.org/10.4088/JCP.14r09528

Harrop, C., Read, J., Geekie, J., & Renton, J. (2021). How accurate are ECT patient information leaflets provided by mental health services in England and the Royal College of Psychiatrists? An independent audit. *Ethical Human Psychology and Psychiatry*, *23*(1), 5–24. https://doi.org/10.1891/EHPP-D-21-00003

Hermida, A., Mohsin, M., Marques, P., Ana, P., McCord, E., Lisko, J., & Head, L. (2022). The cardiovascular side effects of electroconvulsive therapy and their management. *The Journal of ECT*, *38*(1), 2–9. https://doi.org/10.1097/YCT.0000000000000802

Hranov, L., Hranov, G., Ungvari, G., Gabor, S., & Gazdag, G. (2012). Electroconvulsive therapy in Bulgaria: A snapshot of past and present. *The Journal of ECT*, *28*(2), 108–110. https://doi.org/10.1097/YCT.0b013e318245ca05

Iliuta, F., Manea, M., Mares, A., Varlam, C., Lacau, R., Stefanescu, A., Ciobanu, C., Ciobanu, A., & Manea, M. (2024). Understanding the patient landscape: A ten-year retrospective examination of electroconvulsive therapy in Romania's largest psychiatric hospital. *Biomedicines*, *12*(5), 1028. https://doi.org/10.3390/biomedicines12051028

Johnstone, L. (1999). Adverse psychological effects of ECT. *Journal of Mental Health*, *8*(1), 69–85. https://doi.org/10.1080/09638239917652

Johnstone, L. (2000). *Users and abusers of psychiatry* (2nd ed.). Routledge.

Kaliora, S., Braga, R., Petrides, G., Chatzimanolis, J., Papadimitriou, G., & Zervas, I. (2013). The practice of electroconvulsive therapy in Greece. *The Journal of ECT*, *29*(3), 219–224. https://doi.org/10.1097/YCT.0b013e31827e0d49

Karayağmurlu, A., Coşkun, M., Elboğa, G., Ghaziuddin, N., Karayağmurlu, E., Gökçen, C., & Altindağ, A. (2020). Efficacy and safety of electroconvulsive therapy in adolescents: A retrospective chart review study from Turkey. *The Journal of ECT*, *36*(1), 54–59. https://doi.org/10.1097/YCT.0000000000000602

Kaster, T., Babujee, A., Sharpe, I., Rhee, T., Gomes, T., Kurdyak, P., Foussias, G., Wijeysundera, D., Blumberger, D., & Vigod, S. (2025). Clinical characteristics of

inpatients with schizophrenia spectrum disorder treated with electroconvulsive therapy: A population-level cross-sectional study. *Canadian Journal of Psychiatry*, *70*, 194–208.

Knight, J., Jantzi, M., Hirdes, J., & Rabinowitz, T. (2018). Predictors of electroconvulsive therapy use in a large inpatient psychiatry population. *The Journal of ECT*, *34*(1), 35–39. https://doi.org/10.1097/YCT.0000000000000461

Küçükosman, G., Pişkin, Ö., Hancı, V., Okyay, R., Ayoğlu, H., Yurtlu, B., Akın, M., & Turan, I. (2018). Pseudocholinesterase levels in patients under electroconvulsive therapy. *Saudi Medical Journal*, *39*(1), 103–106. https://doi.org/10.15537/smj.2018.1.21307

Kuehner, C. (2017). Why is depression more common among women than among men? *The Lancet. Psychiatry*, *4*(2), 146–158. https://doi.org/10.1016/S2215-0366(16)30263-2

Larsen-Barr, M., Seymour, F., Read, J., & Gibson, K. (2018). Attempting to discontinue antipsychotic medication: Withdrawal methods, relapse and success. *Psychiatry Research*, *270*, 365–374. https://doi.org/10.1016/j.psychres.2018.10.001

Lee, S., Hyung, W., Youn, C., Chi, S., Youn, H., Lee, M., Han, C., & Jeong, H. (2024). Trends in electroconvulsive therapy utilization in South Korea: Health Insurance Review data from 2008 to 2018. *Psychiatry Investigation*, *21*(7), 691–700. https://doi.org/10.30773/pi.2024.0070

Leiknes, K. A., Jarosh-von Schweder, L., & Høie, B. (2012). Contemporary use and practice of electroconvulsive therapy worldwide. *Brain and Behavior*, *2*(3), 283–344. https://doi.org/10.1002/brb3.37

Li, H., Hou, L., Wang, D., Wu, Q., Li, H., He, W., Li, S., Pang, J., Zhang, Y., Ma, Q., Li, C., & Cheng, J. (2023). Response rate and safety of antidepressants combined with electroconvulsive therapy in adolescent depression: Real-world clinical application. *Journal of Affective Disorders*, *339*, 98–103. https://doi.org/10.1016/j.jad.2023.06.052

Li, Q., Su, Y., Xiang, Y., Shu, L., Yu, X., Ungvari, G., Seiner, S., Chiu, H., Ning, Y., Wang, G., Zhang, K., Li, T., Sun, L., Shi, J., Chen, X., Mei, Q., Li, K., & Si, T. (2017). Electroconvulsive therapy in schizophrenia in China: A national survey. *The Journal of ECT*, *33*(2), 138–142. https://doi.org/10.1097/YCT.0000000000000361

Lõokene, M., Kisuro, A., Mačiulis, V., Banaitis, V., Ungvari, G., & Gazdag, G. (2014). Use of electroconvulsive therapy in the Baltic states. *The World Journal of Biological Psychiatry*, *15*(5), 419–424. https://doi.org/10.3109/15622975.2013.866692

Luccarelli, J., Hart, K., & McCoy, T. (2025). Gender representation in the ECT workforce in the USA from 2013 to 2021: A Medicare physician data analysis. *The Journal of ECT*, *41*(1), 27–30. https://doi.org/10.1097/YCT.0000000000001026

Luccarelli, J., Henry, M., Smith, F., Beach, S., & McCoy, T. (2023a). Changes in inpatient electroconvulsive therapy utilization between 2019 and 2020: A national inpatient sample analysis. *The Journal of ECT*, *39*(3), 173–178. https://doi.org/10.1097/YCT.0000000000000917

Luccarelli, J., McCoy, T., Henry, M., Smith, F., Beach, S., & Fernandez-Robles, C. (2023b). The use of electroconvulsive therapy for children and adolescents in general hospitals: A 2019 kids' inpatient database analysis. *General Hospital Psychiatry*, *82*, 95–100. https://doi.org/10.1016/j.genhosppsych.2023.03.012

Luccarelli, J., McCoy, T., Seiner, S., & Henry, E. (2021). Changes in seizure duration during acute course electroconvulsive therapy. *Brain Stimulation*, *14*(4), 941–946. https://doi.org/10.1016/j.brs.2021.05.016

Ma, Y., Rosenheck, R., Fan, N., & He, H. (2019). rates and patient characteristics of ECT in China and comparisons with the United States. *The Journal of ECT*, *35*(4), 251–257. https://doi.org/10.1097/YCT.0000000000000589

Manohar, H., Subramanian, K., Menon, V., & Kattimani, S. (2017). Does gender influence electroconvulsive therapy sessions required across psychiatric diagnoses? A 5-year experience

from a single center. *Journal of Neurosciences in Rural Practice*, *8*(3), 427–430. https://doi.org/10.4103/jnrp.jnrp_482_16

Martin, J., Strawbridge, R., Christmas, D., Fleming, M., Kelly, S., Varveris, D., & Martin, D. (2024a). Electroconvulsive therapy: A Scotland-wide naturalistic study of 4826 treatment episodes. *Biological Psychiatry Global Open Science*, *5*(2), 100434. https://doi.org/10.1016/j.bpsgos.2024.100434

Martin, E., Purushothaman, S., Ballard, E., A., Blake, J., Burke, K., & Scott, J. (2024b). Electroconvulsive therapy in a tertiary Australian mental health facility between 2009 and 2020. *The Australian and New Zealand Journal of Psychiatry*, *58*(8), 713–720. https://doi.org/10.1177/00048674241256839

Martino, A., & Perrotta, A. (2025). Imposter participants challenge research integrity in the digital age. The Conversation, Jan. 14. https://theconversation.com/imposter-participants-challenge-research-integrity-in-the-digital-age-246126

Masson, J. (1986). *A dark science: Women, sexuality and psychiatry in the 19th century*. Farrar Straus & Giroux.

McCall, W., Reboussin, D., Weiner, R., & Sackeim, H. (2000). Titrated moderately suprathreshold vs fixed high-dose right unilateral electroconvulsive therapy: Acute antidepressant and cognitive effects. *Archives of General Psychiatry*, *57*(5), 438–444. https://doi.org/10.1001/archpsyc.57.5.438

McLoughlin, D. (2018). I know not 'seems'. *Australian & New Zealand Journal of Psychiatry*, *52*(7), 709–710. https://doi.org/10.1177/0004867418772902

Moncrieff, J., Read, J., & Horowitz, M. (2024). The nature and impact of antidepressant withdrawal symptoms and proposal of the Discriminatory Antidepressant Withdrawal Symptoms Scale (DAWSS). *Journal of Affective Disorders Reports*, 100765.

Mosti, C., & Brook, M. (2019). The cognitive effects of electroconvulsive therapy: A critical review. *Psychiatric Annals*, *49*(4), 152–156. https://doi.org/10.3928/00485713-20190313-02

Mota, P., Gonçalves-Pinho, M., Macedo, S., Ribeiro, J., Freitas, A., & Mota, J. (2021). ECT use in psychiatric hospitalizations. *European Psychiatry*, *64*(S1), S489–S489. https://doi.org/10.1192/j.eurpsy.2021.1307

Nordanskog, P., Hultén, M., Landén, M., Lundberg, J., von Knorring, L., & Nordenskjöld, A. (2015). Electroconvulsive therapy in Sweden 2013: Data from the National Quality Register for ECT. *The Journal of ECT*, *31*(4), 263–267. https://doi.org/10.1097/YCT.0000000000000243

Office for National Statistics. (2024). Suicides in England and Wales: 2023 registrations. https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/bulletins/suicidesintheunitedkingdom/2023

Patten, S., Wang, J., Williams, J., Currie, S., Beck, C., Maxwell, C., & El-Guebaly, N. (2006). Descriptive epidemiology of major depression in Canada. *Canadian Journal of Psychiatry. Revue Canadienne de Psychiatrie*, *51*(2), 84–90. https://doi.org/10.1177/070674370605100204

Pereira-Soares, E., Nascimento, A., Dos Santos, G., Horato, N., & Nardi, A. (2025). Use of electroconvulsive therapy in a university psychiatric hospital in Brazil. *The Journal of ECT*. https://doi.org/10.1097/YCT.0000000000001129

Plakiotis, C., George, K., & O'Connor, D. W. (2012). Has electroconvulsive therapy use remained stable over time? A decade of electroconvulsive therapy service provision in Victoria, Australia. *The Australian and New Zealand Journal of Psychiatry*, *46*(6), 522–531. https://doi.org/10.1177/0004867412440190

Rahangdale, A., & Ferraro, J. (2024). Electroconvulsive therapy and psychiatric rehospitalization rates: A retrospective study. *BMC Psychiatry*, *24*(1), 753. https://doi.org/10.1186/s12888-024-06211-2

Rajagopalan, A., Lim, K., Tan, X., Martin, D., Lee, J., & Tor, P. (2023). Predictors of cognitive changes in patients with schizophrenia undergoing electroconvulsive therapy. *PloS One*, *18*(5), e0284579. https://doi.org/10.1371/journal.pone.0284579

Rask, O., Nordenskjöld, A., Johansson, B., & Movahed, P. (2023). Electroconvulsive therapy in children and adolescents: Results from a population based study utilising the Swedish National Quality Register. *European Child & Adolescent Psychiatry*, *32*(12), 2649–2656. https://doi.org/10.1007/s00787-022-02123-2

Read, J. (2024). Major adverse cardiac events and mortality associated with electroconvulsive therapy: Correcting and updating a 2019 meta-analysis. *Ethical Human Psychology and Psychiatry*, *26*(2), 116–131. https://doi.org/10.1891/EHPP-2024-0003

Read, J., & Beavan, V. (2013). Gender and psychosis. *In* J. Read, & J. Dillon (Eds.) *Models of madness: Psychological, social and biological approaches to psychosis* (2nd ed.). Routledge.

Read, J., & Williams, J. (2019). Positive and negative effects of antipsychotic medication: An international online survey of 832 recipients. *Current Drug Safety*, *14*(3), 173–181. https://doi.org/10.2174/1574886314666190301152734

Read, J., & Sacia, A. (2020). Using open questions to understand 650 people's experiences with antipsychotic drugs. *Schizophrenia Bulletin*, *46*(4), 896–904. https://doi.org/10.1093/schbul/sbaa002

Read, J., Cartwright, C., & Gibson, K. (2014). Adverse emotional and interpersonal effects reported by 1,829 New Zealanders while taking antidepressants. *Psychiatry Research*, *216*(1), 67–73. https://doi.org/10.1016/j.psychres.2014.01.042

Read, J., Cunliffe, S., Hancock, S. P., Harrop, C., Johnstone, L., & Morrison, L. (in press). The self-reported positive and negative effects of electroconvulsive therapy: An international survey. Submitted.

Read, J., Cunliffe, S., Hancock, S. P., Harrop, C., Johnstone, L., & Morrison, L. (2025d). The adverse effects of electroconvulsive therapy beyond memory loss: An international survey of recipients and relatives. *International Journal of Mental Health*.

Read, J., Cunliffe, S., Jauhar, S., & Mcloughlin, D. (2019a). Should we stop using electroconvulsive therapy? *BMJ*, *364*, k5233. https://doi.org/10.1136/bmj.k5233

Read, J., Gee, A., Diggle, J., & Butler, H. (2017). The interpersonal adverse effects reported by 1,008 users of antidepressants; and the incremental impact of polypharmacy. *Psychiatry Research*, *256*, 423–427. https://doi.org/10.1016/j.psychres.2017.07.003

Read, J., Harrop, C., Geekie, J., & Renton, J. (2018). An audit of ECT in England 2011-2015: Usage, demographics, and adherence to guidelines and legislation. *Psychology and Psychotherapy*, *91*(3), 263–277. https://doi.org/10.1111/papt.12160

Read, J., Harrop, C., Geekie, J., Renton, J., & Cunliffe, S. (2021). A second independent audit of ECT in England: Usage, demographics, consent, and adherence to guidelines and legislation in 2019. *Psychology and Psychotherapy*, *94*(3), 603–619. https://doi.org/10.1111/papt.12335

Read, J., Harrop, C., Morrison, L., Hancock, S. P., Johnstone, L., & Cunliffe, S. (2025a). A large exploratory survey of ECT recipients, family members and friends: What information do they recall being given? *Journal of Medical Ethics*, jme-2024-110629. https://doi.org/10.1136/jme-2024-110629

Read, J., Johnstone, L., Hancock, S. P., Harrop, C., Morrison, L., & Cunliffe, S. (2025b). A survey of 1144 ECT recipients, family members and friends: Does ECT work? *International Journal of Mental Health Nursing*, *34*(4), e70109. https://doi.org/10.1111/inm.70109

Read, J., Hancock, S. P., Morrison, L., Johnstone, L., Harrop, C., & Cunliffe, S. (2025c). A survey of 1144 ECT recipients, family members and friends: Incidence, severity and

duration of memory deficits. *Ethical Human Psychology and Psychiatry*, EHPP-2025-0009.R1. https://doi.org/10.1891/EHPP-2025-0009

Read, J., Kirsch, I., & Mcgrath, L. (2019b). Electroconvulsive Therapy for depression: A Review of the quality of ECT vs sham ECT trials and meta-analyses. *Ethical Human Psychiatry and Psychology*, *21*, 64–103.

Read, J., Morrison, L., & Harrop, P. (2023a). An independent audit of Electroconvulsive Therapy patient information leaflets in Northern Ireland, Scotland and Wales. Psychol. *Psychology and Psychotherapy*, *96*(4), 885–901. https://doi.org/10.1111/papt.12481

Read, J., Moncrieff, J., & Horowitz, M. (2023b). Designing withdrawal support services for antidepressant users: Patients' views on existing services and what they really need. *Journal of Psychiatric Research*, *161*, 298–306. https://doi.org/10.1016/j.jpsychires.2023.03.013

Rohde, P., Noorani, R., Feuer, E., Lisanby, S., & Regenold, W. (2024). Electroconvulsive therapy across nations: A 2022 survey of practice. *The Journal of ECT*, *40*(2), 96–104. https://doi.org/10.1097/YCT.0000000000000980

Rose, D., Fleischmann, P., Wykes, T., Leese, M., & Bindman, J. (2003). Patients' perspectives on electroconvulsive therapy: Systematic review. *BMJ*, *326*(7403), 1363–1360. https://doi.org/10.1136/bmj.326.7403.1363

Rosenbaum, K. (2024). Medical misogyny and the implications of not believing women. *The Journal of the American Academy of Psychiatry and the Law*, *52*(4), 398–401. https://doi.org/10.29158/JAAPL.240067-24

Royal College of Psychiatrists. (2023). *ECTAS dataset report 01 January 2021 – 31 December 2021*. RCPsych.

Sackeim, H., Prudic, J., Fuller, R., Keilp, J., Lavori, P., & Olfson, M. (2007). The cognitive effects of ECT in community settings. *Neuropyschopharmacology*, *32*, 244–254.

Sakayori, T., Wada, K., Takebayashi, M., Ueda, S., Machino, A., Yoshimura, A., Sawayama, E., Maruyama, F., Tanabe, H., Takahashi, H., Azuma, H., Koishikawa, H., Ozawa, H., Okuhira, K., Yasuda, K., Miyakawa, K., Yoshimura, R., Ozaki, S., Yokoyama, S., … Okubo, Y. (2025). Multicenter observational study of electroconvulsive therapy in Japan. *The Journal of ECT*, *41*(1), 31–36. https://doi.org/10.1097/YCT.0000000000001031

Salagre, E., Rohde, C., & Østergaard, S. (2022). Self-harm and suicide attempts preceding ad following electroconvulsive therapy: A population-based study. *Journal of ECT*, *38*, 13–23.

Santos, A., Oliveira, M., Andrade, T., Freitas, R., Banzato, C., Azevedo, R., & Botega, N. (2013). Twenty years of electroconvulsive therapy in a psychiatric unit at a university general hospital. *Trends in Psychiatry and Psychotherapy*, *35*(3), 229–233. https://doi.org/10.1590/s2237-60892013000300010

Schweder, L., Lydersen, S., Wahlund, B., Bergsholm, P., & Linaker, O. (2011). Electroconvulsive Therapy in Norway. *The Journal of ECT*, *27*(4), 292–295. https://doi.org/10.1097/YCT.0b013e318208e24b

Sharma, A., Minh Duc, N. T., Luu Lam Thang, T., Nam, N. H., Ng, S. J., Abbas, K. S., Huy, N. T., Marušić, A., Paul, C. L., Kwok, J., Karbwang, J., de Waure, C., Drummond, F. J., Kizawa, Y., Taal, E., Vermeulen, J., Lee, G. H. M., Gyedu, A., To, K. G., … Karamouzian, M. (2021). A consensus-based checklist for reporting of survey studies (CROSS). *Journal of General Internal Medicine*, *36*(10), 3179–3187. https://doi.org/10.1007/s11606-021-06737-1

Showalter, E. (1985). *The female malady: Women, madness and English culture, 1830-1980*. Pantheon Books.

Sigström, R., Göteson, A., Joas, E., Pålsson, E., Liberg, B., Nordenskjöld, A., Blennow, K., Zetterberg, H., & Landén, M. (2025). Blood biomarkers of neuronal injury and astro-

cytic reactivity in electroconvulsive therapy. *Molecular Psychiatry*, *30*(4), 1601–1609. https://doi.org/10.1038/s41380-024-02774-4

Sigström, R., Nordenskjöld, A., Juréus, A., Clements, C., Joas, E., Pålsson, E., & Landén, M. (2020). Long-term subjective memory after ECT. *BJPsych Open*, *6*(2), e26. https://doi.org/10.1192/bjo.2020.9

Spanggård, A., Rohde, C., & Østergaard, S. (2023). Risk factors for suicide among patients having received treatment with electroconvulsive therapy: A nationwide study of 11,780 patients. *Acta Psychiatrica Scandinavica*, *147*(4), 333–344. https://doi.org/10.1111/acps.13536

Sumia, P., Seppälä, N., Ritschkoff, J., Tammentie-Sarèn, T., Leinonen, E., & Järventausta, K. (2021). A survey of electroconvulsive therapy in Finland. *The Journal of ECT*, *37*(1), 36–39. https://doi.org/10.1097/YCT.0000000000000709

Suzuki, K., Takahashi, T., Takahashi, K., Uzawa, M., Ohya, D., Iizawa, M., Takahashi, Y., Yasaki, T., Sugiyama, N., & Washizuka, S. (2017). Changes over 12 years in the distribution of age, sex, and diagnosis of patients undergoing electroconvulsive therapy at Shinshu University Hospital. *Psychogeriatrics*, *17*(6), 511–513. https://doi.org/10.1111/psyg.12268

Tor, P.-C., Tan, J., Martin, D., & Loo, C. (2020). Outcomes in patients with and without capacity in electroconvulsive therapy. *Journal of Affective Disorders*, *266*, 151–157. https://doi.org/10.1016/j.jad.2020.01.150

UK ECT Review Group. (2003). Efficacy and safety of ECT in depressive disorders. *Lancet*, *361*, 799–808.

van Diermen, L., van den Ameele, S., Kamperman, A., Sabbe, B., Vermeulen, T., Schrijvers, D., & Birkenhäger, K. (2018). Prediction of electroconvulsive therapy response and remission in major depression: Meta-analysis. *The British Journal of Psychiatry*, *212*(2), 71–80. https://doi.org/10.1192/bjp.2017.28

Vera, I., Sanz-Fuentenebro, J., Urretavizcaya, M., Verdura, E., Soria, V., Martínez-Amorós, E., & Bernardo, M. (2016). Electroconvulsive therapy practice in Spain: A national survey. *The Journal of ECT*, *32*(1), 55–61. https://doi.org/10.1097/YCT.0000000000000270

Webb, M., Coffey, C., Saunders, W., Cress, M., Weiner, R., & Sibert, T. (1990). Cardiovascular response to unilateral electroconvulsive therapy. *Biological Psychiatry*, *28*(9), 758–766. https://doi.org/10.1016/0006-3223(90)90511-y

Wells, K., Hancock, N., & Honey, A. (2021). The experience of living after ECT: A qualitative meta-synthesis. *Journal of Mental Health*, *30*(4), 526–540. https://doi.org/10.1080/09638237.2020.1739244

Wu, S., Li, K., Long, J., Zhang, C., Li, R., Cheng, B., Cao, M., & Deng, W. (2025). Risk factors for postictal delirium in geriatric patients undergoing electroconvulsive therapy: The role of lithium and quetiapine. *Alpha Psychiatry*, *26*(4), 45431. https://doi.org/10.31083/AP45431

Wyse, R., Hwang, W., Ahmed, A., Richards, E., & Deville, C. (2020). Diversity by race, ethnicity, and sex within the US psychiatry physician workforce. *Academic Psychiatry*, *44*(5), 523–530. https://doi.org/10.1007/s40596-020-01276-z

Yang, M., Yang, Y., Liu, L., Kong, D., Xu, M., Huang, X., Luo, C., Zhao, G., Zhang, X., Huang, Y., Tu, Y., & Li, Z. (2023). Sex differences in factors influencing hospital-acquired pneumonia in schizophrenia patients receiving modified electroconvulsive therapy. *Frontiers in Psychiatry*, *14*, 1127262. https://doi.org/10.3389/fpsyt.2023.1127262