Journal of Affective Disorders

Accepted 6.11.2023

https://doi.org/10.1016/j.jad.2023.11.009

WARNING: HIGH INCIDENCE RATE OF COGNITIVE IMPAIRMENT FROM

ELECTROCONVULSIVE THERAPY WITH ADOLESCENTS

John Read

A study by 12 members of the Psychiatry department at Zhengzhou University Hospital in China (Li et al., 2023) reports a 'high response rate and safety' for electroconvulsive therapy (ECT) in 110 adolescents treated at their hospital.

Like all ECT studies since 1985, there was no placebo group. Only eleven placebo-controlled studies have ever been conducted, all before 1986, and all very small and seriously flawed (Read et al., 2019). In most of them the placebo group (who were given general anaesthetic but not the electric shock or convulsion) showed significant improvement (Rasmussen, 2009). As usual, the current study also has no follow up beyond the end of treatment. Furthermore, evaluations of progress appear to have been made by the psychiatrists themselves, rather than by independent unbiased raters. So, contrary to the claims of the authors, little can be concluded about efficacy.

Such flaws are, however, common to most ECT studies (Read et al., 2019). What is especially concerning about this particular study is that it reports that 76 of the 110 teenagers (69%) suffered 'memory impairment' after the ECT. They describe this rate as being indicative of 'high' safety. The researchers seemed reassured that the 69% was not

significantly higher than the 61% suffered by adults in the same study, so it must be acceptable.

The issue does not even seem to have been considered important enough for readers to be told how the memory impairment was measured. We are told only that 'We recorded the side effects of all depressed patients during and after ECT.' Presumably the 'we' means, again, that the assessments, whatever form they took, were not carried out by independent raters. How much higher might the rate have been if independent raters, using validated cognitive tests, had been employed?

Readers are told that the side effects, including the memory impairment, were 'transient'.

There were no follow up assessments made, so the psychiatrists had no basis for making such a claim.

In their efforts to persuade us that it is well established that memory loss is short-lived in adolescents after ECT, Li et al. cite just one study (Cohen et al., 2020), which they say found 'no evidence of worsening cognitive function'. The study involved just ten teenagers. It actually found that six (60%, similar to the Li et al. study) suffered memory impairment immediately after ECT. One (10%) was still reporting it three and a half years later.

Studies have found that ECT causes 'persistent or permanent' memory loss in between 12% (Sackeim et al., 2007) and 55% (Rose et al., 2003) of adults. Even the American Psychiatric Association (2021) has acknowledged that 'evidence has shown that ECT can result in persistent or permanent memory loss.' The ECT manufacturer, Somatics, includes 'permanent brain damage' in its list of risks from ECT. Furthermore, an Editorial of the American Journal

of Neuroradiology notes that 'A number of experimental animal and clinical imaging studies confirm the idea that seizures by themselves cause brain damage.' (Bronen, 2020).

The use of sufficient electricity, once, on a developing brain, in order to cause a seizure in that young brain, is a very serious matter. To do so five or six times in a few weeks is almost bound to cause brain damage in a significant number of recipients. The average age of these youngsters was just 15.5 years. Most (62%) were girls. When even the psychiatrists themselves acknowledge that 69% of these youngsters have impaired memories as a result, this does not indicate a treatment with a 'high' degree of safety.

Finally, one has to wonder what the children and their parents were told by these psychiatrists about the risks involved before they 'signed informed consent' for the study. Presumably that the procedure has a 'high' level of safety.

This is not an isolated incident. In another recent study, of 278 children and adolescents (aged 12-27 years. 85% girls), a 68% rate of 'memory problems' was deemed 'acceptable (Read et al. 2023)'.

Neither study made any mention of the social circumstances or life events that led to the depression and suicidality of the young people, or what psychological therapies, if any, had been tried in order to address the causes of the depression. It might be argued that this was not the purpose of Li et al.'s study, but that is a problem. Treatments should try to determine the causes of the problems been treated and try to address those causes. Some ECT researchers seem oblivious to the fact that electricity cannot resolve child abuse or neglect,

loneliness, low self-esteem or any other of the many causes of depression and suicidality in our children and teenagers.

Guidance by the World Health Organisation and the United Nations states:

'People being offered ECT should also be made aware of all its risks and potential short- and long-term harmful effects, such as memory loss and brain damage. ECT is not recommended for children, and this should be prohibited through legislation.'

(W.H.O & U.N., 2023, p. 53)

American Psychiatric Association. 2001. The Practice of ECT: A Task Force Report (2nd edn). Washington, DC: American Psychiatric Association.

Bronen, R. 2020. The status of status: Seizures are bad for your brain's health. American J.f Neuoroadiol. 21, 1782-1783.

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 Behav. 12, e2795

Cohen, D., Taieb, O., Flament, M., Benoit, N., Chevret, S., Corcos, M., Fossati, P., Jeammet, P., Allilaire, J., Basquin M. 2000. Absence of cognitive impairment at long-term follow-up in adolescents treated with ECT for severe mood disorder. Am. J. Psychiatry. 157, 460-462

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. J. Affect. Disord. Jun 28:S0165-0327(23)00818-2. doi: 10.1016/j.jad.2023.06.052.

Rasmussen K. 2009. Sham ECT studies in depressive illness. J. ECT, 25, 54-9.

Read, J., Kirsch, I. McGrath, L. 2019. Electroconvulsive therapy for depression: A review of the quality of ECT versus sham ECT trials and meta-analyses. Ethical Hum. Psychol. Psychiatry, 21, 64-100.

Read, J., Ross, C., Timimi, S. 2023. A study of ECT on 278 children and adolescents: methodological, conceptual and ethical concerns. Brain Behav., 12, e2866.

Rose, D., Fleischmann, P., Wykes, T., Leese, M., Bindmanet, J. 2003. Patients' perspectives on ECT. Br. Med. J, 326, 1363-6

Sackeim, H., Prudic, J., Fuller, R., Keilp, J., Lavori, P., Olfson, M. 2007. The cognitive effects of ECT in community settings. Neuropyschopharmacol, 32, 244–54.

Somatics. 2018. Regulatory update to Thymatron system IV instruction manual. http://www.thymatron.com/downloads/System_IV_Regulatory_Update.pdf.

World Health Organization, United Nations (represented by the Office of the United Nations High Commissioner for Human Rights). 2023. Mental health, human rights and legislation: Guidance and practice. W.H.O., Geneva.