

Bridging electroconvulsive therapy in schizophrenia with cognition and quality of life

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Schizophrenia is one of the most debilitating severe mental illnesses with significant impact,¹ irrespective of culture or socioeconomic class.² Over the decades, antipsychotic medication has been the mainstay of treatment for patients with schizophrenia. Nevertheless, about 25% of patients do not respond to first-line antipsychotic medication, with more than 80% being non-responders to second-line antipsychotics.³ The commencement of clozapine has been the current standard of care for patients who have failed 2 trials of antipsychotics.⁴ Nevertheless, clozapine is limited by its severe adverse effects and the need for frequent blood monitoring with the probability of 25% of non-responders.³ Electroconvulsive therapy (ECT) alone or in combination with antipsychotic medication was shown to have increased rates of global improvement and more rapid rates of symptomatic remission in a Cochrane review.⁵ Yet, it is often considered the last resort when antipsychotic medications do not work, and it is not often used in earlier phases of onset of severe psychosis. The reluctance to prescribe ECT in such situations is partly due to the concern of its cognitive side effects, despite these being remarkably reduced with modernisation in the practice of ECT.

In this issue of the *Annals*, Tan et al. presented a critical and convincing report on the research of ECT and quality of life (QoL) among patients with schizophrenia.⁶ The authors retrospectively examined the relationship between the use of acute ECT among 132 patients diagnosed with schizophrenia or schizophrenia spectrum disorder. They also examined the impact of acute ECT on psychiatric symptoms and cognition, with the ultimate aim of determining the association between ECT-induced psychiatric symptomatic change with changes and improvement in QoL. Brief Psychiatric Rating Scale, Montreal Cognitive Assessment and EuroQol-5-Dimension (EQ-5D) scales were used as measuring tools. The authors discovered a relationship between improved psychiatric symptoms, cognition and global improvement of QoL after a course of acute ECT over a

total of 6 sessions. The study demonstrated an association where an improvement of psychiatric symptoms was linked to an improvement in utility score, and subdomain score of pain and anxiety. Similarly, cognition improved with better outcomes in EQ-5D utility score and subdomain score of usual activity, indicating improvement in patients' physical health.

Tan et al. have provided understanding of and shed light on the knowledge gap linking QoL and ECT among patients with schizophrenia. There is a dearth of research on this topic highlighted by Tan et al.,⁶ with previously only 3 publications reporting heterogeneous results in their investigation of QoL outcomes in patients with schizophrenia who underwent ECT. Multiple factors such as social, cultural, educational and economical background can interfere with the evaluation and interpretation of QoL, thus hindering the extrapolation of a conclusion even more so, as the construct of QoL is complex. The direct relationship between psychotic symptomatology severity and QoL can also be complicated, as evidenced by the discrepancy between study design and outcome. However, the efficacy of ECT in treating schizophrenia is undoubtedly proven in this study by Tan et al. The study is consistent with many other previous studies, but certainly with the added value of measuring QoL as an outcome measure in a population of patients with schizophrenia.

Over the years, utilisation of ECT has reduced owing to the discovery of antipsychotic medications and concerns about the possibility of cognitive side effects.⁷ Remarkable advances have been achieved over the past decades in the treatment approaches in ECT, to enable the delivery of effective ECT treatment with reduced cognitive adverse effects,⁸ through the use of ultra-brief pulse width and right unilateral electrode placement. Furthermore, there has been encouraging finding suggesting that ECT is associated with cognitive improvement in schizophrenia.⁹

However, there is a complex link between cognition and QoL in schizophrenia, observable through contradicting

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findings. While some studies imply that improving cognition contributes to a lower QoL score due to possibly, emergence of post-psychotic phase depression following improved insight,¹⁰ other studies believe that improving cognition leads to improvement in QoL.¹¹ Based on this understanding, it is prudent to monitor the cognitive function of patients with schizophrenia before and after a course of ECT, with high vigilance on the potential cognitive side effects of ECT in such a group of patients. Cognitive dysfunction is one of the core features of schizophrenia, and the cognitive deficit is demonstrable even before the onset of florid psychotic symptoms. Treating psychiatrists would have to consider the potential contribution to further cognitive decline if ECT treatment is not well planned and monitored. The consequence of lengthening the period of recovery and to regain psychosocial functioning would undoubtedly have a direct impact and jeopardise the QoL of patients with schizophrenia.

One of the strengths of this study is the larger number of patients with schizophrenia and schizophrenia spectrum disorder, compared to other previous studies. We observe a possible difference in the prescription of ECT for mentally ill patients among Western and Asian psychiatrists, where the common indication for ECT is psychosis rather than depression in Asia. Also notably, despite the increased awareness of mental health among the general population in Asian countries, the level of acceptance and understanding of ECT among patients and family members may still be lower compared to Western countries. Such phenomena considerably lead to stigma, delay treatment and remission, and prolong recovery. The demonstration of both improvements in psychosis and cognition, and their association with improvement in QoL in this study is a reassuring finding that can be translated into clinical practice, especially during psychoeducation for patients and family members.

Overall, this study by Tan et al. highlights the additional benefit of ECT among patients with schizophrenia and schizophrenia spectrum disorder in the context of improving QoL. It provides excellent thoughts to ponder for future research direction and potential in similar populations, with more extended periods of monitoring for QoL as outcome measures. The study also inspires

questions about the impact of ECT on QoL sustainability, in hand with the continuation and maintenance of ECT. The practice of ECT differs across settings, creating significant variances in the assessment of practice and outcome measurements. However, one consistent element in any setting could consist of competent and good practice to ensure efficacy of treatment with minimal adverse effects, as a contributing factor to patients' QoL. Therefore, a standardised framework and practice among ECT practitioners are essential to galvanise excellent outcomes and maximise the benefits of ECT.

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