

Cognitive Stimulation Therapy in Dementia – Are We Sufficiently Stimulated?

Efficacy of current pharmacological therapy for dementia is very much limited and hence research focused on non-pharmacological treatment (NPT) of dementia becomes very important. Among the various cognitive interventions available in dementia cognitive stimulation therapy (CST) is the intervention with the most robust evidence.^[1] CST is an engagement in a range of group activities and discussions aimed at general enhancement of cognitive and social functioning.^[2] The central assumption underlying cognitive stimulation is that a lack of cognitive stimulation can hasten the decline in both normal ageing and dementia.^[3]

Spector *et al.*^[4] in 2003 evaluated a group CST programme in a large multicentre, single-blind, randomised controlled trial and demonstrated significant benefit in two measures of cognitive functions in the Mini-Mental State Examination (MMSE) and the cognitive subscale of the Alzheimer's Disease Assessment Scale (ADAS-Cog).^[5,6] In a Cochrane review, Aguirre *et al.*^[7] confirmed its positive impact on cognitive function, depression, activities of daily living (ADL) and behaviour of people with dementia. Subsequently, evidence showed that CST is associated with changes in patterns of neural activation in cognitively important brain regions *among healthy older adults and in people with mild cognitive impairment (MCI)*.^[8]

In the United Kingdom, CST has also been widely implemented in National Health Service (NHS).^[9] Memory Clinics Research on CST has advanced further. A practical, evidence-based methodology for implementation of CST in diverse countries was developed using implementation science frameworks. This has resulted in the development of Implementation Plans even for developing countries like Brazil, India and Tanzania.^[10] Also, there is enough evidence to prove that CST does no harm to the patient.

The present study is a prospective interventional study in which participants were randomized to CST and control groups, and a manual-based virtual group therapy was delivered to patients in the CST group, weekly for 7 weeks.^[11] It is a single-blind randomised controlled study. Significant improvement in cognition as well as ADL, neurobehavioural abnormalities and caregiver burden was seen, thereby adding to the existing literature on the effectiveness of CST. In this study, CST was given as an adjunctive treatment and the pharmacological treatment received is not mentioned in detail.

Majority of the studies demonstrating efficacy of CST were conducted in the United Kingdom. These studies need to be replicated in other cultural background also to be recommended universally.^[12] This study is one step towards this goal. This is the first study to explore the wider application of CST intervention in India for its effectiveness as well as for

exploring the other beneficial effects in terms of behavioural and psychological symptoms of dementia (BPSD) and ADL outcomes of dementia and caregiver burden following the intervention. This study has also tested the applicability of virtual delivery of CST, that too in a low-cost setting.

However, the study does have some drawbacks that have to be kept in mind while interpreting. In the control group, it is observed that there was a significant worsening of the Montreal Cognitive Assessment (MoCA), Neuropsychiatric Inventory (NPI) and the Zarit Burden Interview (ZBI) in 2 months, which is rather rapid for common dementias like Alzheimer's dementia. In this context, it would be good to mention the drug treatment, if any received by the patients. To really evaluate the effect of intervention, the treatment received by the groups has to be controlled.^[13] A small sample also has to be considered as a significant inadequacy.

What is the way forward?

Available evidence shows that in mild to moderate dementia, relative to a control intervention, CST is probably associated with small to moderate positive effects on global cognition and verbal semantic fluency and these benefits appear to be maintained over a short-term period of 3 to 12 months. But their benefit has not yet been proven against a variety of alternative treatments of dementia which is one of the important challenges.^[14] Studies are needed for a head-to-head comparison of CST with alternate treatment options to bring out the real strength and weakness of CST.

Impact of CST on various dementia subtypes is yet another area that needs further exploration. Little is currently known about whether some aspects of cognition change more than others and why. Some evidence is already available pointing towards the mode of action of CST and its impact on the various parts of brain. There is always scope for larger controlled studies especially so because there is no effective treatment available for dementia at the moment.

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