## Summary of Research on Cognitive Stimulation Therapy (CST)

Cognitive stimulation therapy (CST) is an effective non-pharmacological treatment option for Alzheimer's and other forms of dementia. It has repeatedly been found to improve cognition and quality of life for individuals suffering from dementia (Aguirre et al, 2013; Breuil et al, 1994; Hall et al, 2009; Spector et al, 2010; Tardif & Simard, 2011). It can be used to stabilize or even improve the cognitive functioning of individuals suffering from mild Alzheimer's disease (Bottino et al, 2005; Matsuda et al, 2010). CST also has a particularly positive effect on language function, which produces improvement in other areas (Spector et al, 2010). CST can even address various root causes of difficult behaviours in individuals suffering from dementia and so reduce their occurrences (Cohen-Mansfield, 2001). While greatly improving the quality of life for the individual with dementia, this also reduces caregiver stress (Brodaty & Arasaratnam, 2012).

CST can be used in conjunction with medication and still produce benefits without adverse interaction effects. A recent study found that CST benefits of improved cognition and life quality still appeared in those taking acetylcholinesteraseinhibitor (AChEI) (Aguirre et al, 2013). Another study found that declines in cognitive ability were reduced to nearly zero for those patients using AChEI who participated in CST (Matsuda, 2007). In other studies, the addition of CST to an otherwise pharmacological-based treatment scheme has resulted in significantly higher scores for Alzheimer's sufferers on cognitive and neuropsychological tests (Bottino et al, 2005; Matsuda et al, 2010). In some instances, the use of a purely CST-based treatment regime was found to be more effective than a pharmacological-based regime (Spector et al, 2003; Woods et al, 2012).

CST is beneficial for both seniors living in the community and those living in a retirement residence (Aguirre et al, 2013). For seniors with no or only mild cognitive impairment, CST can be administered in a group setting while still providing improvements to cognition and quality of life (Frieri, 2010). The cognitive benefits afforded by CST can be maintained by weekly sessions (Orrell et al, 2005). CST is often found to be a cost-effective approach to treatment (Frieri, 2010; Graff et al, 2010; Knapp et al, 2006). The use of CST can even reduce the costs associated with informal care (Graff et al, 2010).

CST has benefits to offer healthy older adults as well. CST has been shown to delay eventual cognitive decline, while pharmaceuticals have not (Naqvi et al, 2013). CST also preserves seniors' ability to perform activities of daily living (Rebok et al, 2014). Regular use of CST encourages individuals to higher levels of mental activity thereby reducing their risk of developing dementia (Gates & Valenzuela, 2010). Finally, a comprehensive multiple domain approach, like Fit Mind's, that covers different areas of cognition provides greater benefits than those that focus on only one cognitive domain, such as memory (Gates & Valenzuela, 2010).

Research into the efficacy and uses of CST continues with many ongoing clinical trials (Streater et al, 2012; Orrell et al, 2012).

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