



# COGNITIVE STIMULATION THERAPY

Cognitive stimulation

## KEY POINTS

- To stimulate cognitive functioning (memory, language, attention-concentration, executive functioning) and provide psychological support.
- This intervention involves physical, cognitive, behavioural and social processes.
- Observed effects are a maintenance or an improvement of the cognitive functioning and an improvement of mood and quality of life of family caregivers.
- In group sessions.
- For people with mild to moderate dementia.

## PRESENTATION

### A. Definition

Cognitive Stimulation Therapy (CST) is a psychosocial intervention for people with dementia that aims to improve cognitive function through themed group activities, which implicitly stimulate skills including memory, executive function, and language through tasks such as categorisation, word association and discussion of current affairs. It also intends to improve overall quality of life and mood. Sessions follow a set of guiding principles which include “new ideas, thoughts and associations”, “maximising potential” and “opinions rather than facts”<sup>[1]</sup>.

### B. Fundamentals

Cognitive Stimulation Therapy was designed through systematically reviewing the literature on the main psychosocial interventions for dementia<sup>[2]</sup> and combining the most effective elements of these therapies. The programme is built upon several theories including learning theory and brain plasticity, which suggest that appropriate and targeted mental stimulation, for example through building new semantic connections, can lead to the development of new

neuronal pathways. Social theories suggest that creating an optimal and supportive group environment can enhance skills, reduce stigma and increase well-being and there is evidence that improved cognition in CST is mediated by improved quality of life<sup>[3-4]</sup>.

## THEORETICAL BACKGROUND

### A. Processes involved

- Physical processes: sensorimotor integration.
- Cognitive processes: memory, executive functioning, language production and comprehension, spatial and temporal orientation, praxis.
- Behavioural processes: mood, behavioural and neuropsychiatric symptoms.
- Social processes: social interaction, social communication.

Based on the involved processes mentioned above, it is important to highlight that CST also aims to improve quality of life and well-being of people with dementia and their

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caregivers. It is the only psychosocial intervention recommended to treat cognition by the United Kingdom (UK) National Institute for Health and Care Excellence (NICE) guidelines, being now offered by over 85% of UK memory services. It is endorsed by Alzheimer's Disease International, used in over 31 countries globally and translated into at least 10 languages.

## B. Neurophysiological correlates

Cognitive Stimulation Therapy is a psychosocial intervention that aims to mentally stimulate people through complex psychological techniques (implicit learning, multi-sensory stimulation) embedded in structured group activities (word association, current affairs). The sessions create a positive but challenging learning environment which could stimulate the functioning of existing neural networks and also promote the functioning of alternative neuronal pathways. It might also stimulate the frontal lobe, as has been shown in studies exploring neural correlates of psychosocial intervention for people with dementia<sup>[5-6]</sup>. However, to date, there is no published study exploring specifically the neurophysiological correlates of CST.

## SCIENTIFIC EVALUATION

Group-based CST is recommended to be evidence-based intervention for dementia in the literature. A recent systematic review<sup>[7]</sup> included 12 studies (8 RCTs) from the United States (US), UK, Hong Kong, Japan, Tanzania, and Portugal and found that all studies examined impact on cognition, with nine demonstrating statistically significant improvements.

Several studies also found significant benefits to quality of life, depression, and impact on caregivers. Crucially, the review concluded that the CST programme can be widely linguistically and culturally adapted, with the benefits to cognition replicated internationally. A synthesis of 22 systematic reviews incorporating 197 unique studies of psychosocial interventions in dementia<sup>[8]</sup> concluded that cognitive stimulation demonstrates the best evidence for improving cognition amongst all psychosocial interventions.

Economic analyses have shown that CST is more cost-effective than usual care when looking at benefits in cognition and quality of life<sup>[9]</sup>. Also, the UK National Health System (NHS) conducted an economic evaluation of the alternatives to antipsychotic drugs for people with dementia, showing that, combining health care cost savings and quality of life improvements, CST used routinely could save £54.9 million annually for the NHS<sup>[10]</sup>.

## IMPLEMENTATION AND PRACTICAL ADVICE

### A. Training and/or knowledge required to provide the intervention

Cognitive Stimulation Therapy can be administered by anyone working with people with dementia, such as care staff, psychologists, occupational therapists, or nurses. Practitioners can learn to provide CST treatment for people with dementia by following the CST manual or attending CST training.

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## B. Practical and clinical advice

### THERAPEUTIC INTENTION

#### Participants profile

People with mild to moderate dementia.

#### Indications

- Cognitive stimulation: memory, executive function and language.
- Psychological stimulation: mood, social interaction and quality of life.

#### Contra-indications

Severe cognitive disorders, severe auditory and/or vision loss, behaviour incongruent with group session.

#### Contributors

Care workers, psychologists, occupational therapists or nurses working with people with dementia.

*Recommendation: Two facilitators per group.*

#### Setting of intervention

Isolated and quiet room including comfortable chairs, a table, a whiteboard, a ball and a music player.

#### Dosage

Group sessions with 5 to 8 participants.

- Period: 7 weeks.
- Frequency: twice a week.
- Duration: 45 minutes - 1 hour session.

#### Session sequencing

**1** Welcome members individually; **2** Group name and song; **3** Temporal orientation; **4** Discussion about current affairs; **5** Main activity; **6** Closure.

#### Observance / Attendance

To reduce reluctance to participate, group members should ideally be at similar stages of dementia and the sessions activities should be proposed according to group members' interests.

#### Assessment

Cognitive, functional, behavioural, mood, quality of life.

## FOR MORE INFORMATION

International Cognitive Stimulation Therapy (CST) Centre:  
<https://www.ucl.ac.uk/pals/research/clinical-educational-and-health-psychology/research-groups/international-cognitive-34>

## ABOUT THE AUTHORS

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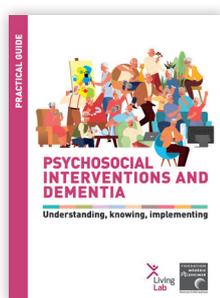
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This sheet corresponds to a chapter of the guide *Psychosocial interventions and dementia: understanding, knowing, implementing* directed by the Fondation Médéric Alzheimer.

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