

Improving Cognition in Severe Mental Illness by Combining Cognitive Remediation and Transcranial Direct Current Stimulation (HEADDSET+ study)

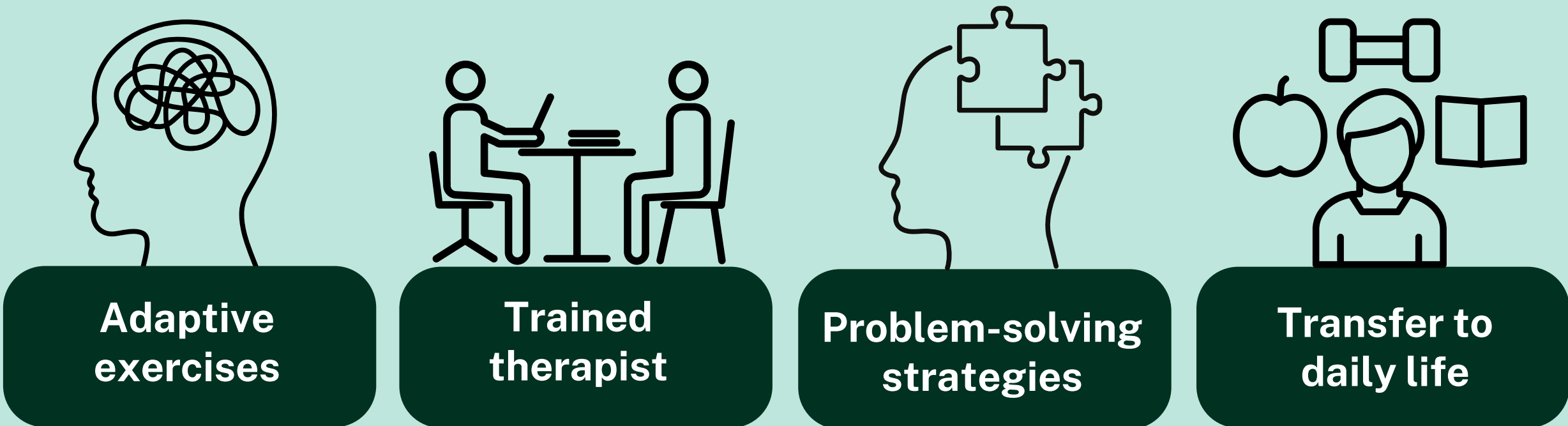
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Introduction

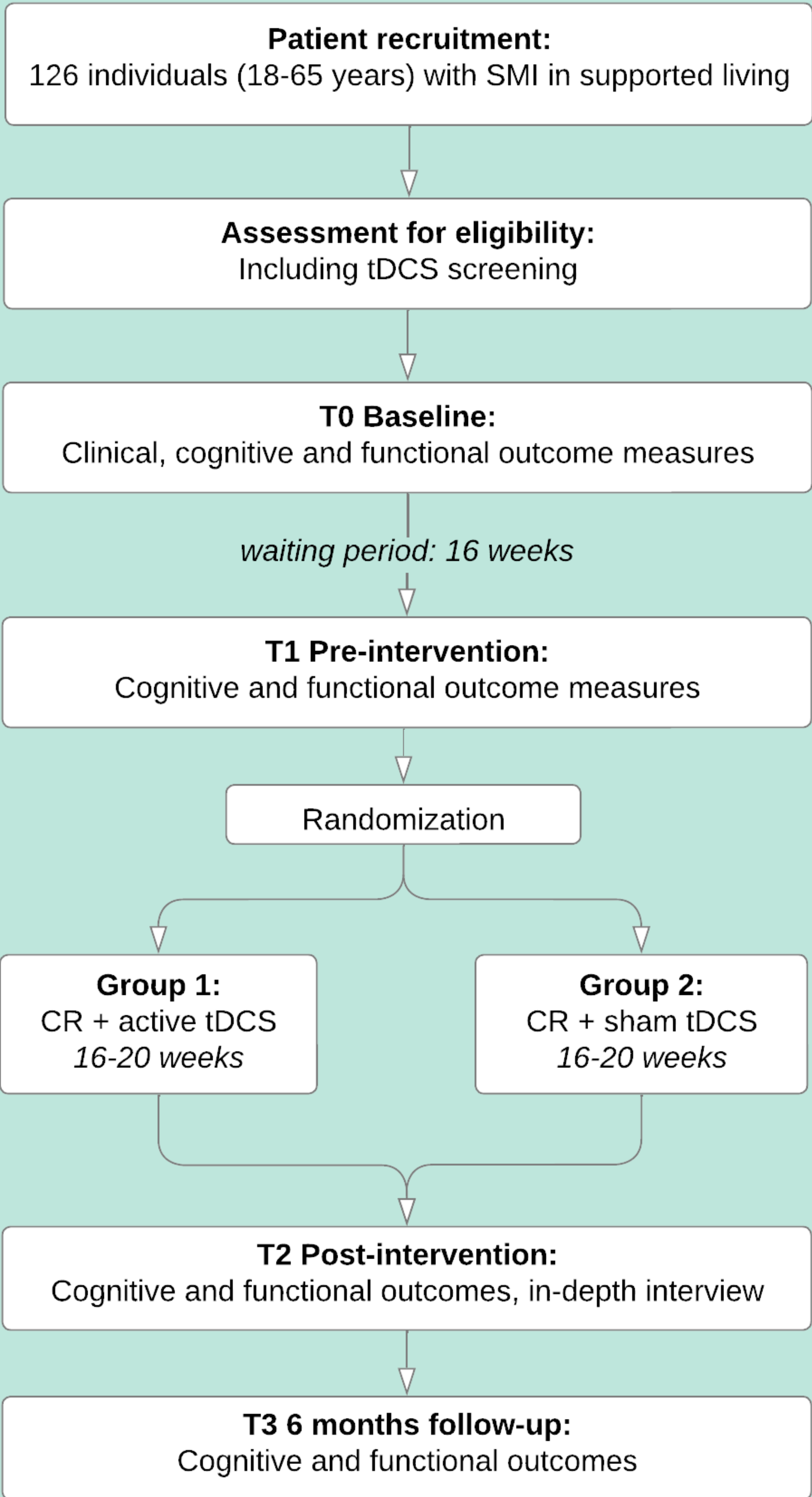
Individuals with **severe mental illness** (SMI, Delespaul & EPA, 2013) often face challenges in daily life, often due to cognitive impairments. **Cognitive rehabilitation interventions** can improve thinking abilities and functional outcomes, such as **CIRCuiTS** (Reeder et al., 2016, 2017). **Transcranial direct current stimulation** (tDCS), targets neural plasticity by applying a weak current across the scalp to modulate brain functioning, and therefore, may improve learning.

Figure 1: Core elements of CR (Bowie et al., 2020)



Methodology

The **HEADDSET+** study design:



Objectives

- To determine whether individuals with SMI who require supported housing can improve their cognitive and daily functioning after following cognitive remediation (CR).
- To evaluate whether combining CR with tDCS increases the effect of CR alone.
- To investigate the subjective experience of people with SMI regarding the CR intervention.

Hypothesis: CR is expected to improve **goal attainment, cognitive function, and daily life skills**.

Figure 2: CR + tDCS



Results

- Currently, 47 participants are included, 13 have completed the treatment. Data collection and analysis are ongoing.
- Building on previous research by our group (Poppe et al., under revision), **subjective improvements** are expected in cognitive and daily functioning. **Cognitive improvements** are expected following CR and 6 months after its completion.
- Current progress shows that the participants tolerate the intervention well and **recommend** it.

Discussion

If proven effective, tDCS with CR could serve as a valuable, low-cost, and non-invasive approach to improve functioning. This holds promise for implementation into standard care for individuals requiring long-term support.

Take Home Message

CIRCuiTS has been shown to be effective in individuals with SMI. Further research is needed to assess whether tDCS can improve this effect and potentially contribute to increased independence, recovery, and quality of life.

Contact Details

Scan the QR code!

