

Multicomponent-Multidomain Cognitive Intervention with Care-partners

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BACKGROUND

Patients with MCI or mild dementia often search for treatments to improve their cognitive and daily functioning or aid in managing their deficits. Pharmacological treatments in some patients can improve their symptoms but they may also cause some side effects. Research suggests that multifaceted non-pharmacological interventions provided to patients with caregivers have similar benefits as pharmacological treatments without any side effects. At BAI Tucson, we developed a multi-component and multi-domain cognitive training program for patients and care partners.

OBJECTIVES

1. To assess the feasibility and efficacy of the cognitive training program in an outpatient memory clinic
2. To present a case study of an intervention in amnestic mild cognitive impairment (MCI)

METHOD

Approximately 20 individual sessions of cognitive training were provided to patients with mild cognitive impairment or early stages of dementia with their care partners.

The cognitive training program with the dyad included three main components:

- Psychoeducation, training, and problem-solving for healthy brain behaviors
- Psychoeducation, training, and problem-solving regarding compensating cognitive deficits
- Psychoeducation and cognitive training addressing attention, processing speed, executive functioning, and memory domains.

ASSESSMENTS

Assessments used during the intervention: N-back; Geriatric Depression Scale; Geriatric Anxiety Scale; Quality of Life Scale; Cognitive Self-Efficacy Questionnaire; Functional Assessment Questionnaire; Everyday Cognition (E-Cog); Zarit Burden Scale.

Chart review was conducted for other pre and/or post neuropsychology assessments or MMSE/MOCA.

PARTICIPANTS

- A total of 13 patients started the treatment
- The age ranges between 63 and 85
- Diagnoses included MCI due to unclear (1), cerebrovascular (4) or Alzheimer's (2) etiology, or dementia due to Alzheimer's (3) Parkinson's (1), TBI/Mixed (2) etiology

RESULTS

- 4 out of 13 patients completed the treatment
- Only one patient with dementia diagnosis completed the treatment.
- 2 patients completed 13 sessions and others discontinued in less than 6 sessions
- 5 patients discontinued because they needed social work support
- 2 patients discontinued because they felt much better
- 2 patients discontinued due to anosognosia
- 3 patients with MCI who completed the treatment demonstrated **improvements in cognition, quality of life, improved mastery of daily activities, reduced complaints of cognitive dysfunction, and reduced caregiver burden**
- Post treatment reporting also validate these benefits

CONCLUSIONS

Multi-component and multi-domain cognitive training program with patients and care partners is **feasible and effective** treatment for mild cognitive impairment. In some cases, objective measures of **cognition also showed substantial improvement**. Further research will establish statistical and clinical significance.

A CASE REPORT

- 65-year-old university professor diagnosed with amnestic MCI
- Reported stress, frustration, and excessive difficulty at work with research and teaching
- Completed pre and post mood, cognitive and caregiver burden assessments
- Attended 20 sessions with his care-partner; their daughter joined via Facetime

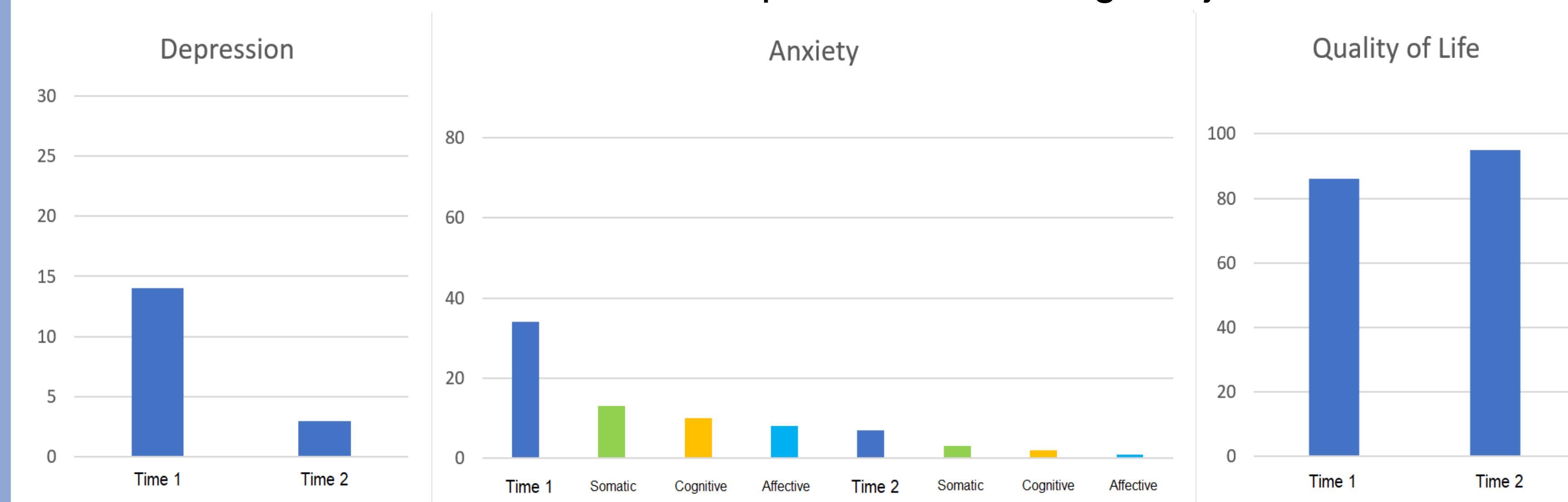


Figure 1. Self reported mood. Time 1 = pretest; Time 2 = posttest

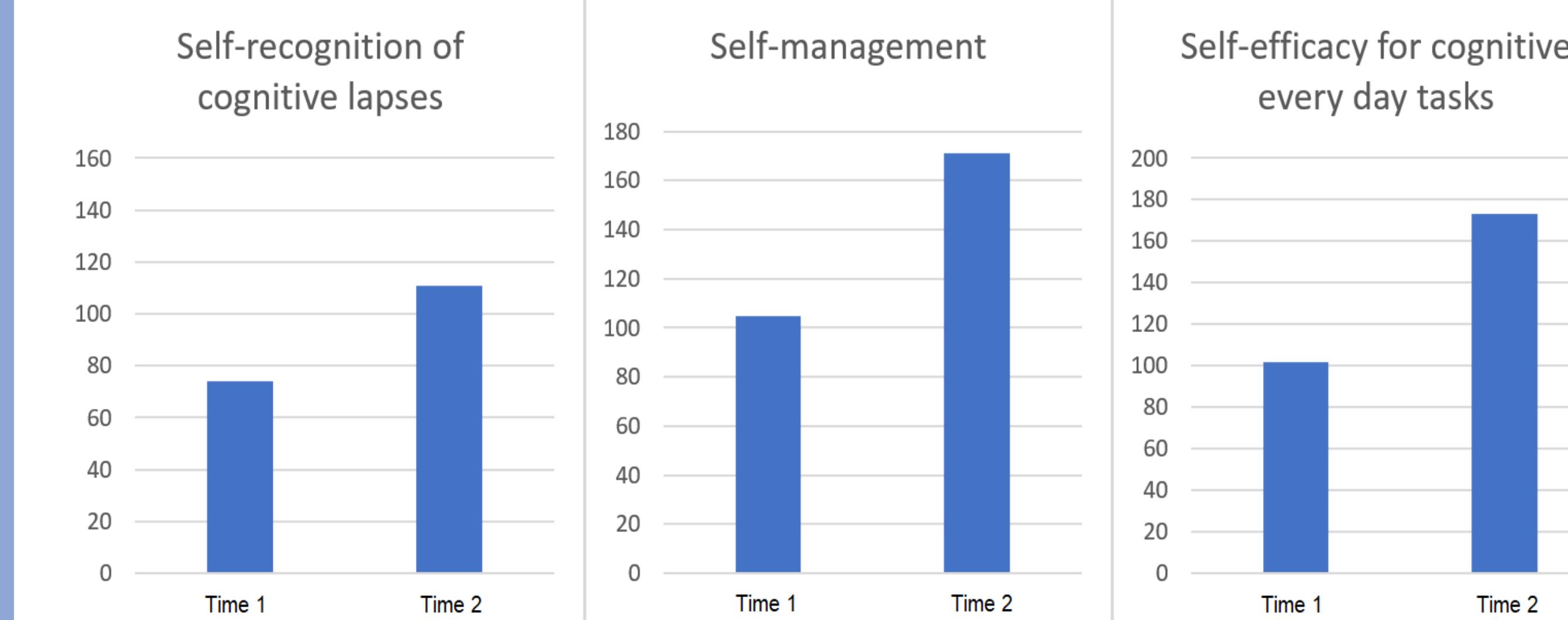


Figure 2. Self reported cognition. Time 1 = pretest; Time 2 = posttest

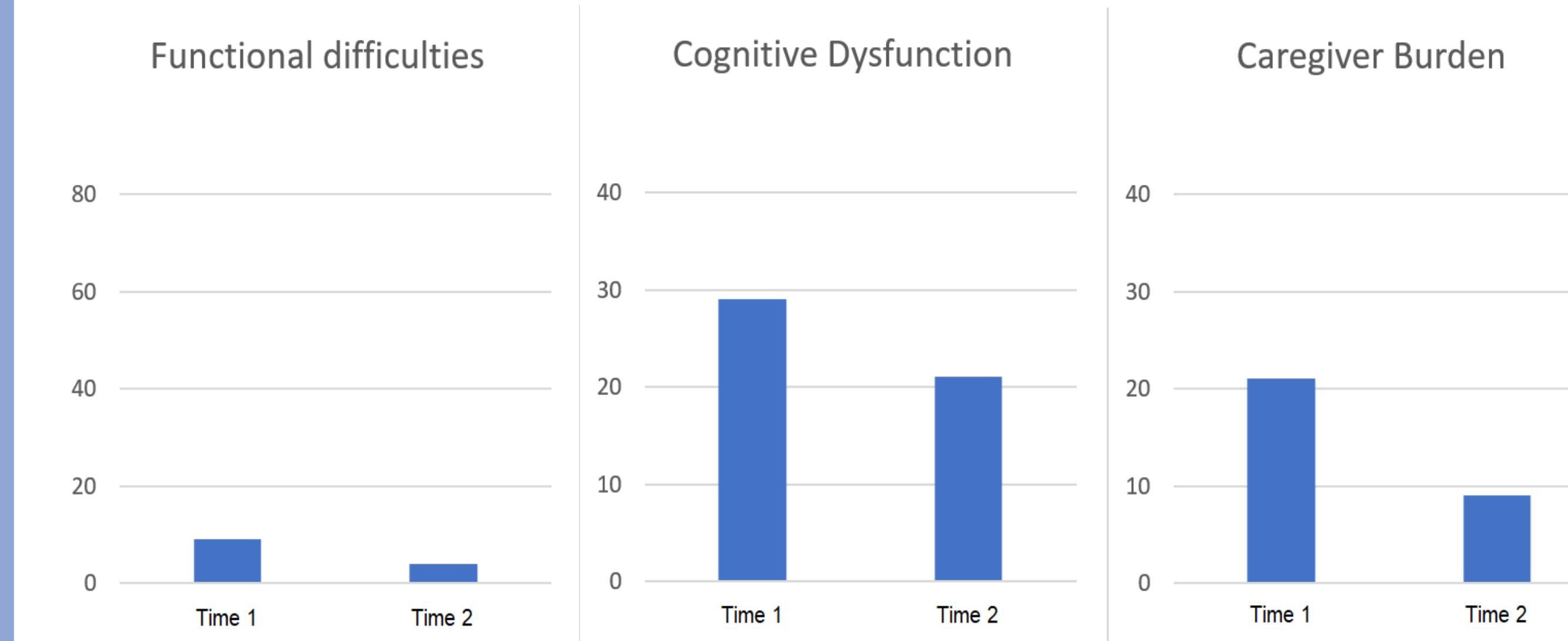


Figure 2. Caregiver report. Time 1 = pretest; Time 2 = posttest

Pre-post neuropsychology evaluation over a year and half apart showed **stable verbal memory deficits** and **improvements in visual memory and executive functioning**.

Results:

- **Increased physical activity** and engagement in hobbies
- **Improved efficacy** in managing stress with **reduced frustration** and better family relationships
- **No difficulty in new lesson planning** for the next semester and **published several research papers**
- Diagnosis and treatment of bipolar disorder