Community-based neuropsychological rehabilitation for survivors of non-CNS cancer: Comparing hybrid and face-to-face programs during the COVID-19 pandemic

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BACKGROUND

- Research indicating the efficacy of remote individual therapy supports integration of remote interventions in hybrid holistic neuropsychological rehabilitation programs.
- In developing a first-of-its-kind holistic vocational rehabilitation day program for non-CNS cancer survivors ("*SULAM*"), we addressed known cognitive, emotional, behavioral, and vocational impairments.
- During the COVID-19 pandemic, we conducted a hybrid cohort receiving both face-to-face and remote interventions.

SULAM PROGRAM TIMELINE

	6 MONTHS		UP TO 2 YEARS	
Neuropsychological Assessment (T1)	Referral to Program	Holistic Neuropsychological-Vocational Rehabilitation – 4 days a week, 5 hours a day	Neuropsychological Assessment (T2)	Follow-up: Individual Neuropsychological Therapy and/or Individual Job Counseling – up to 1 hour a week each

AIMS

To compare two cohorts of the community-based program: a pre-COVID-19 cohort receiving all interventions face-to-face and a hybrid cohort receiving both face-to-face and remote interventions during COVID-19 pandemic.

METHODS

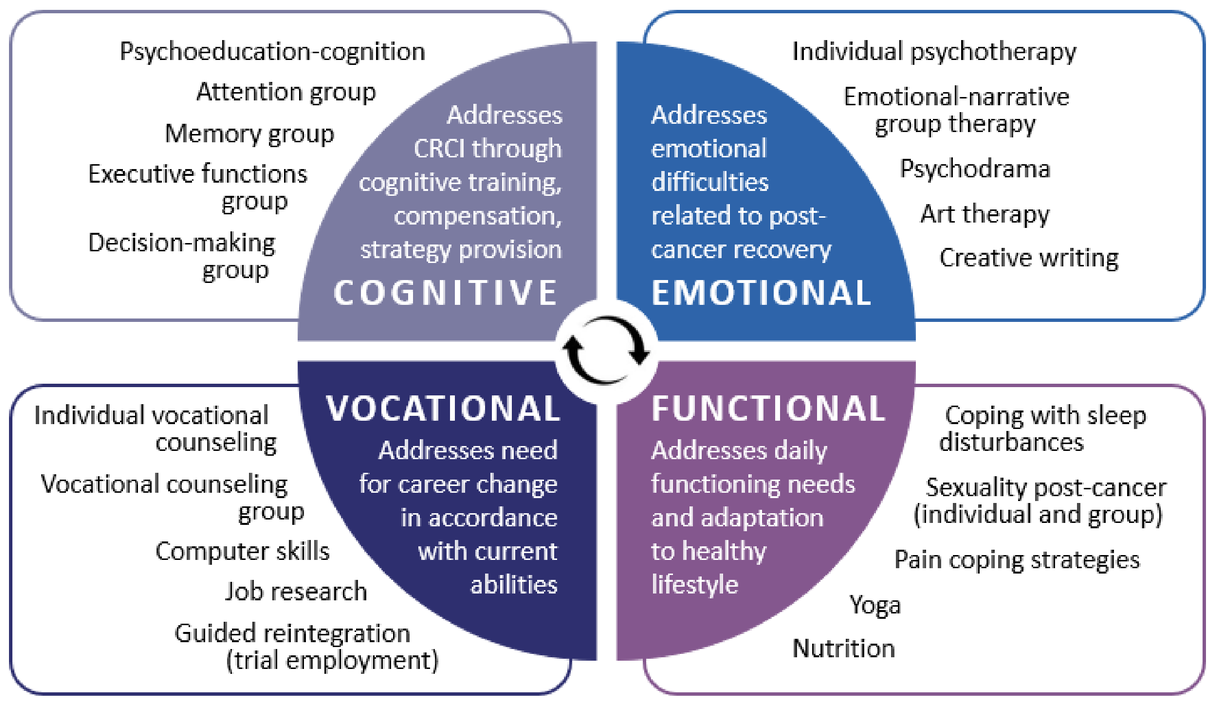
Participants:

- 21 program participants (mean age 46, SD 7.07) assessed at the start (T1) and end (T2) of the program:
  - 10 received all interventions face-to-face
  - 11 received both face-to-face and remote interventions (hybrid program)
- All were non-CNS cancer survivors, all lost jobs and were unable to reintegrate into employment
- Referred by **Rehabilitation Department of the Israeli National Insurance Institute** (Social Security equivalent)

Tools:

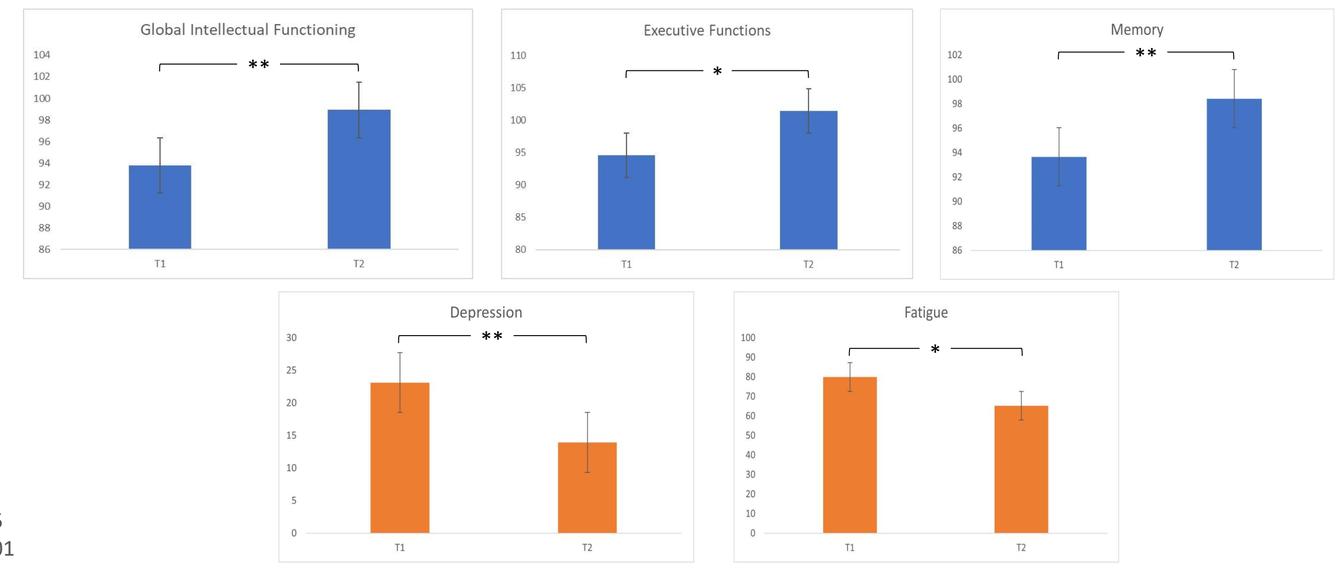
- Groups were compared with respect to performance on a cognitive test battery and additional emotional and functional measures:
  - Computerized cognitive test battery
  - Questionnaires – depression, anxiety, fear of cancer recurrence, health and quality of life, fatigue, cognition

Program Components:



RESULTS

- A GLM repeated measures procedure assessing both groups showed improvement over time in all the cognitive measures (global intellectual functioning, executive functioning, memory) except attentional functions, alongside decreases in depressed mood and fatigue.
- No significant between-group differences in the change between the two timepoints, for any of the measures ($p > 0.05$).



*$p < 0.05$
**$p < 0.01$

CONCLUSIONS

- In terms of cognitive functioning, depression, and fatigue, the hybrid program made necessary by COVID-19 did not harm efficacy.
- Improvements between the before (T1) and after (T2) assessments were demonstrated in both groups.
- This pattern suggests that we can increase accessibility to holistic, community-based neuropsychological rehabilitation programs by integrating remote interventions.
- Further study should include a control group and examine vocational outcomes and maintenance of improvements over time.

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