

# Cancer-Related Cognitive Impairment

## Retrospective analyses of a multidimensional, psychoeducation-based cognitive rehabilitation intervention

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**BACKGROUND:** Managing cancer-related cognitive impairment (CRCI) is a vital component of optimal cancer survivorship care. Results from several small studies indicate growing support for the use of cognitive rehabilitation and training strategies.

**OBJECTIVES:** This study aimed to retrospectively analyze the effects of a six-week standardized, multidimensional, psychoeducation-based group cognitive rehabilitation intervention for CRCI.

**METHODS:** Retrospective analyses were conducted for data collected for 20 cohorts who received the intervention in groups of about six participants. Changes in cognitive function and health-related quality of life (HRQOL) were compared.

**FINDINGS:** 85 of 110 participants completed pre- and postintervention assessments. A significant improvement for self-reported cognitive function and HRQOL was demonstrated and sustained over time. Program satisfaction was high.

### KEYWORDS

cancer; cognitive rehabilitation; health education; quality of life

### DIGITAL OBJECT IDENTIFIER

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**MANAGING CANCER-RELATED COGNITIVE IMPAIRMENT (CRCI)**, also known as “chemobrain,” is a vital component of optimal cancer survivorship care. The symptoms of CRCI may include difficulty with attention and concentration, poor short-term memory, impaired processing speed, and reduced executive function (Wefel, Kesler, Noll, & Schagen, 2015). About 35% of survivors continue to experience symptoms of CRCI after treatment (Janelins et al., 2018), with evidence that problems can persist for several months to years after completing treatment (Buchanan et al., 2015). CRCI is distressing and may have a major effect on quality of life, social integration, and return to work (Bradley, Neumark, Bednarek, & Schenk, 2005; Crouch, Von Ah, & Storey, 2017).

Evidence-based treatments that can be widely disseminated are lacking. Pharmacologic interventions for the treatment of CRCI have limited data to support their use (Von Ah, Jansen, & Allen, 2014). The lack of apparent benefit of pharmacologic treatment for CRCI may be related to the absence of a clear single mechanism in the genesis of this clinical problem (Chung, Walker, Dhillon, & Vardy, 2018). Potential mechanisms that have been described include oxidative damage, immune dysregulation and the production of inflammatory cytokines, genetic predisposition, and accelerated aging from cancer treatment or the cancer itself (Ahles, Root, & Ryan, 2012). In addition, research has also associated a number of behavioral symptoms and lifestyle factors with CRCI, including mood changes, insomnia, obesity, and physical inactivity (Hartman, Marinac, Natarajan, & Patterson, 2015).

This clinical problem is complicated by minimal correlation between objective neuropsychological testing and subjective self-report measures of CRCI (O’Farrell, Smith, & Collins, 2017). In addition, frequent objective neuropsychological testing is not practical. Barriers include time constraints, cost concerns, and access to healthcare professionals trained to administer and interpret these tests, particularly considering the need for use on a wide scale given the number of cancer survivors that may be experiencing CRCI. Assessing for subjective symptoms has gained more