

Feasibility and Acceptability of a Virtual ‘Coping with Brain Fog’ Intervention for Adolescents and Young Adults with Cancer

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INTRODUCTION

- Perceived cognitive deficits related to cancer and its treatment (brain fog) are common among adolescents and young adults (AYAs) diagnosed with cancer
 - Estimated prevalence of brain fog among AYAs with cancer is 13-53%
 - Impact on daily functioning, ability to work, social relationships, and quality of life
- Clear need for programming directed at brain fog symptoms among AYAs with a cancer diagnosis
- Previously described treatments for brain fog symptoms include:
 - Cognitive training and rehabilitation programs
 - Pharmacotherapies are also being studied
- The ‘Coping with Brain Fog’ program has been designed as an in-person group program to educate patients with cancer about brain fog and help improve their cognition and overall wellbeing
- This program is used in Canada but has not been systematically evaluated

AIMS

- Primary objective: To determine the feasibility and acceptability of a virtual psychoeducational ‘Coping with Brain Fog’ intervention among adolescents and young adults with a cancer diagnosis
- Secondary objectives: To explore the effect of this intervention on perceived cognitive functioning and psychological distress

ACKNOWLEDGEMENTS

Patient Participants, CancerCare Manitoba Foundation, Department of Psychosocial Oncology at CancerCare Manitoba, University of Manitoba, Ian Scott (Psychosocial Oncology Clinician)

METHODS

Study Design

- Prospective pilot study

Population

- Individuals between ages 18-40, who have been
 - Diagnosed with any type or stage of cancer,
 - Reporting symptoms of brain fog, and
 - Currently living in Manitoba

Intervention

- 8-week virtual ‘Coping with Brain Fog’ program for cancer survivors, delivered using Zoom
 - Week 1: Course Introduction
 - Week 2 to 4: Memory Skills
 - Week 5 to 6: Task Management
 - Week 7 to 8: Psychological Wellbeing

Outcomes

- Primary Outcome: Feasibility and Acceptability
 - Recruitment (8-12 participants) and attendance (60% of participants not missing the first two sessions and any two consecutive sessions)
 - Client Satisfaction Questionnaire (CSQ)
 - Semi-structured exit interviews
- Secondary Outcomes: Cognitive Functioning and Symptoms of Distress
 - FACT-Cog scale, Cancer Distress-AYA scale
 - PROMIS-Anxiety, Depression, and Fatigue Short Forms

Data Analysis

- Mixed Methods Analysis
 - Summative content analysis on Dedoose software
 - Paired t-test analysis on R Studio software

RESULTS

Primary Outcome

- 12 Participants recruited
 - 1 participant withdrew after second session
 - 5 participants missed one session
- Mean score on the CSQ was 28.2 (scores range from 8-32; higher score indicates greater satisfaction)
- On qualitative analysis, all participants found the program to be informative and positive
- 91% of participants used strategies learned from the program in their daily lives
- 100% of participants enjoyed the group format
- 82% found the virtual format generally positive
 - 55% indicated that they would have preferred some elements of an in-person format

“I learnt some valuable tools that I think even in this short time have already been effective in terms of...making me better at living my life” (Participant 1)

“Kind of like trying to rebuild your house after a hurricane but you don’t have the tools to do it, so you’re just kind of picking up bent doors, but now I have the tools that will help me fix my house” (Participant 10)

“It was nice hearing other people’s opinions and everything, and what everybody else was going through” (Participant 6)

“It’s super easy for anybody who has, you know, a phone or a computer to be anywhere and have this session and not have to get a ride to go into the city” (Participant 4)

Secondary Outcomes

- Improvement in FACT-Cognitive Scale scores pre vs. post and pre vs. 6-8 week post-intervention
- Improvement in Cancer Distress-AYA scores pre vs. 6-8 week post-intervention

Scale	Immediate post Intervention vs. pre-intervention		6-8 Week Post-Intervention vs. pre-intervention	
	Mean Difference (95% CI)	p-value	Mean Difference (95% CI)	p-value
FACT-Cog Scale (overall)	9.45 (1.37, 17.54)	0.03	13.82 (1.94, 25.7)	0.03
Cancer Distress AYA	-2.73 (-9.81, 4.35)	0.41	-10.36 (-20.06, -0.67)	0.04
PROMIS Anxiety	0.12 (-3.38, 3.61)	0.94	-0.55 (-5.49, 4.38)	0.81
PROMIS Depression	-1.59 (-5.16, 1.98)	0.34	-1.85 (-7.28, 3.57)	0.46
PROMIS Fatigue	-1.64 (-5.00, 1.73)	0.30	-3.84 (-8.11, 0.44)	0.07

CONCLUSIONS

- Pilot study demonstrates the feasibility and acceptability of virtual ‘Coping with Brain Fog’ intervention
- Virtual format improves accessibility
- Participant suggestions to improve program
 - Increased duration of sessions
 - More even distribution of information
 - Post-intervention follow-up
- Qualitative and exploratory quantitative data indicate improvement in brain fog symptoms
- Larger scale randomized control trial is needed to confirm the findings of this pilot study