Creighton UNIVERSITY

School of Pharmacy and Health Professions
Department of Occupational Therapy

Cancer Related Cognitive Impairment (CRCI)

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BACKGROUND

In 2019, there were 16.9 million cancer survivors in the United States. In 2020 there will be an estimated 1.8 million new cancer diagnoses (American Cancer Society, 2019). Within this increase in cancer diagnoses and survivors, there comes a mixture of physical, psychosocial, and cognitive impairments with cognitive changes being one of the most reported (Janelsins, et al., 2014). Cognitive impairments during and following cancer treatments are very common. Approximately 75% of people undergoing cancer treatment experience CRCI with the most common reports being of report trouble with memory, attention, and slow processing speed (Janelsins, et al., 2014). 35% of survivors report that CRCI has lasted for many years following treatment (Janelsins, et al., 2014). CRCI can impact cancer survivors' working ability, social and occupational functioning and daily life, and eventually diminish their quality of life (Zeng, et al., 2020). Occupational therapy intervention can be very effective for people with CRCI.

PROGRAM DETAILS

Within oncology rehabilitation, occupational therapists treat a variety of impairments caused by cancer and its related treatments. One of the less common impairments to treat, is cognitive decline secondary to cancer treatment along with the stress and anxiety it brings to people's lives. Within the University of Colorado Healthcare system, there are very few resources for screening tools and interventions in place for occupational therapists to utilize. This program focuses on the implementation of a cognitive intervention and screening resources to address cognitive decline for patients during and following oncology treatments. This program includes examples of screenings, specific interventions, and appropriate education to provide when discussing cognition-based therapy for people diagnosed with cancer.

FOCUSED QUESTION

What evidence-based and non evidence-based screenings and interventions are appropriate for occupational therapists to utilize in oncology rehabilitation?

METHODS

In utilizing the Creighton Health Sciences Library to locate research articles, interviews with occupational therapists and other health care providers, and observations of occupational therapists implementing interventions focusing on cognitive impairments many interventions, screening tools, and education materials were discovered. Within the online academic library, a total of 9 articles were found and utilized with information supporting cognitive interventions by occupational therapists as well as information with effective interventions. Through interviews with occupational therapists and other health care professionals, information was provided for effective and evidence-based screening tools, as well as screening tools/questions that were clinically relevant and were utilized, however lacked research evidence to back their validity. Through interviews with patients, interventions and additional screening questions were ascertained such as "Do you plan on returning to work following your cancer treatment?" and "What are your concerns with returning to work regarding your cognition?".

This project was informed through reading and summarizing research on CRCI, interviews with health care professionals, and interviews with patients currently receiving oncology treatment screening tools and a variety of interventions.

FACT-Cognitive Function (Version 3)

Below is a list of statements that other people with your condition have said are important. **Please circle or mark one number per line to indicate your response as it applies to the past 7 days.**

	PERCEIVED COGNITIVE IMPAIRMENTS	Never	About once a week	Two to three times a week	Nearly every day	Several times a day
CogA7	I have had trouble forming thoughts	0	1	2	3	4
CogA3	My thinking has been slow	0	1	2	3	4
CogC3	I have had trouble concentrating	0	1	2	3	4
CogM8	I have had trouble finding my way to a familiar place	0	1	2	3	4
CogM10	I have had trouble remembering where I put things, like my keys or my wallet	0	1	2	3	4
CogM12	I have had trouble remembering new information, like phone numbers or simple instructions	0	1	2	3	4
CogV11	I have had trouble recalling the name of an object while talking to someone	0	1	2	3	4
CogV13	I have had trouble finding the right word(s) to express myself	0	1	2	3	4
CogV16	I have used the wrong word when I referred to an object	0	1	2	3	4
CogV17b	I have had trouble saying what I mean in conversations with others	0	1	2	3	4
CogT19	I have walked into a room and forgotten what I meant to get or do there	0	1	2	3	4
CogT23	I have had to work really hard to pay attention or I would make a mistake	0	1	2	3	4
CogT24	I have forgotten names of people soon after being introduced	0	1	2	3	4

FACT-Cog V3
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RESULTS

Screening Tools Identified

The FACT-Cognitive Function which assesses Perceived Cognitive Impairments, Comments from Others, Perceived Cognitive Abilities, and Quality of life. This screening tool utilizes a Likert Scale for patients to rate 41 questions pertaining to their cognitive abilities.

PROMIS Item Bank v2.0-Cognitive Function which assesses oncology treatment's impact on cognition with a Likert scale with 54 questions.

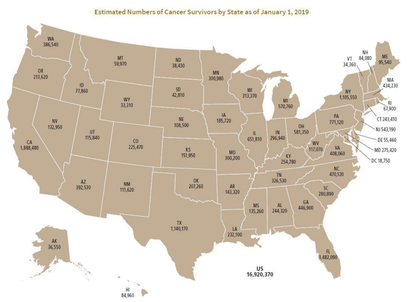
An additional resource to utilize is the health care team. Examples of screening questions a physician can ask during an appointment are: Have you had any changes in thinking, memory, or concentration? Is your daily life impacted by these changes?

Interventions Identified

Interventions utilizing compensatory strategies were the most frequently utilized by therapists (Polo, et. al., 2019). For example, utilizing a calendar or journal as a means to compensate for memory deficits. In addition, direct, occupation- based interventions were utilized less frequently, however were still completed to address certain patient goals (Polo, et. al., 2019). For example, utilizing work-related cognitive tasks during interventions to achieve the patient's goal to return to work.

Interventions that include addressing the psychosocial needs of patients to then address their cognitive impairments and improve attention to tasks have been found to have anecdotal effectiveness in occupational therapy treatment sessions during the Doctoral Capstone Experience at UCHealth.

Limitations to this program include small number of people being treated utilizing these tools at UCHealth and time constraints of student rotation, including the clinic closing due to the pandemic. Future studies with increased population and longer time to carry out program details are necessary.



(American Cancer Society, 2019).

BOTTOM LINE FOR OT

As many as 4 million cancer survivors have some form of cognitive difficulty (Janelsins et al.,n2011). Occupational therapy plays in important role in cancer rehabilitation and the reintegration back into meaningful occupations even after medical treatment stops. Occupational therapy is useful in addressing many of the cognitive needs of cancer survivors. Occupational therapy provides education, physical rehabilitation, psychosocial intervention, and cognitive intervention to cancer survivors. Cognitive dysfunction can impact a survivor's ability to participate in meaningful occupations, be a productive member of society, decreases community engagement, and increases psychosocial impacts including symptoms of depression (Baxter, Newman, Longpré, & Polo, 2017). Occupational therapy provides a unique and occupation-based focus into oncology rehabilitation, specifically cognitive rehabilitation that addresses participation in life activities and quality of life. With the increasing number of people diagnosed with cancer and increasing number of survivors continuing to live for several years beyond diagnosis, occupational therapy's role in cognitive impairment interventions is of high importance to the quality of life for survivors.

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