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COMMENTARY

Addressing fear of recurrence: improving psychological care in cancer survivors

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Abstract
Purpose Fear of cancer recurrence (FCR) is defined as "the fear or worry that the cancer will return or progress in the same area or another part of the body." FCR is associated with impaired functioning and lower quality of life in cancer patients. A cognitive-existential (CE) manualized group intervention for women with FCR showed a moderate effect size in reducing FCR, cancer-specific distress, and maladaptive coping. However, it appears that no *individual* intervention for FCR exists for both men and women. Therefore, the group intervention was adapted to an individual format.
Methods This study was conducted to determine the feasibility, acceptability, and satisfaction of the individual intervention. The intervention was pilot-tested on $n = 3$ cancer survivors. The 6-week sessions included cognitive restructuring, structured exercises, and relaxation techniques. Participants completed questionnaire packages during a 4-week baseline period and throughout the 6-week intervention. Participants completed exit interviews following the intervention.
Results General trends in baseline and intervention stages were compared. Based on the line graphs, the individual intervention appears to help survivors lower their elevated FCR and cancer-specific distress. Qualitative exit interviews conducted with the study participants demonstrated that the intervention was acceptable and satisfactory.
Conclusions This clinical intervention allows researchers to systematically focus on evidence-based treatments for managing FCR, and displays the availability of treatment options in different therapeutic modalities. However, further research is needed to identify the active therapeutic ingredients and mechanisms of change in the intervention. Overall, intervention studies suggest it is possible to help cancer survivors manage their FCR.

Keywords Cancer · Fear of cancer recurrence · Psychosocial interventions · Coping · Psychosocial oncology

This manuscript seeks to inform future research and practice in the area of psychosocial oncology, namely, fear of cancer recurrence.

Fear of cancer recurrence (FCR) is defined as "the fear or worry that the cancer will return or progress in the same area or another part of the body" [1]. FCR can result in psychological distress, impaired functioning, and lower quality of life [1–4]. A recent literature review estimated about 50 % of cancer survivors experience moderate-to-high levels of FCR [2], which is often characterized by frequent rumination, excessive monitoring for potential recurrences, and avoidance of reminders (e.g., anniversary of diagnosis) [3, 5]. FCR can have deleterious effects on patients' mental health and overall quality of life.

Despite a growing interest in FCR, there are few published psychological interventions that specifically address FCR [4–8]. In order to address the mental health needs of individuals living with FCR, Lebel et al. [5] developed and pilot-tested a manualized, 6-week cognitive-existential (CE) group intervention for women with breast or gynecological cancers. The intervention demonstrated significant improvement in

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FCR (effect size 0.73), immediately post-therapy and at a 3-month follow-up [5].

With the success of the aforementioned pilot study, and evidence suggesting that patients who receive the treatment modality of their choice report better therapeutic outcomes by the end of treatment [9], an individual format of this intervention was developed. A pilot study of this individual version was conducted with $n = 3$ cancer survivors and addressed several gaps in the literature, including to provide FCR-specific services for male and female survivors; to provide therapy for individuals less comfortable in group therapy settings; to support survivors in underrepresented cancer populations (e.g., colorectal cancer); to improve coping and psychological functioning; and to investigate mechanisms of change for reducing FCR. The overall goal of the study was to test the feasibility, acceptability, and satisfaction with the individual FCR intervention.

The first and second authors discussed the process for adapting the group intervention therapist and patient manuals (for more information on the intervention, please see [5]). Participants were recruited from The Ottawa Hospital Cancer Centre via study posters and referrals from health care professionals. Participants attended six weekly therapy sessions and completed weekly online questionnaires consisting of two psychological measures, the Fear of Cancer Recurrence Inventory (FCRI) [10] and the Impact of Events Scale (IES)

Table 1 Detailed description of the individual cognitive-existential intervention (modified from Lebel & Maheu, unpublished manuscript)

Session #	Session description
1	- Introduction of participant with a focus on their experience with FCR
	- Introduce FCR model
	- Identification of internal and external triggers
	- Introduce notion of cognitive restructuring and triggers, handout of thinking errors
	- Coping skills teaching: progressive muscular relaxation (PMR)
	- Homework: thought record, PMR record, prepare list of questions for oncologist
2	- Discuss questions list about signs of recurrence and follow-up care to ask oncologist at next visit
	- Discuss ways of regaining sense of control
	- Coping skills teaching: calming self-talk phrases and use of relaxation CD
	- Homework: thought record, PMR record, self-talk log
3	- Explore reasonable levels of worry
	- Complete "Why Worry" questionnaire
	- Challenge faulty beliefs about benefits of worry
	- Review maladaptive coping strategies like reassurance-seeking and avoidance
	- Coping skills teaching: guided imagery
	- Homework: challenge worries, examine evidence, guided imagery log
4	- Provide psycho-education about worry and the need for exposure to underlying fears, write down worst-case scenario
	- Promote emotional expression and confront specific fears that underlie participant's FCR
	- Coping skill teaching: mindfulness exercise (body scan)
	- Homework: review worst-case scenario daily, write down feelings before and after, body scan daily
5	- Review exposure to worst-case scenario
	- Discuss ways of coping with some of the feared outcomes
	- Encourage expression of feelings of demoralization
	- Encourage participants to become re-engaged with important life goals, people, or activities they may have given up
	- Discuss what the future and planning now means for each participant
	- Coping skills teaching: mindfulness (eating meditation)
	- Homework: write out plans for future, practice mindfulness
6	- Review all content covered to date
	- Discuss resource list
	- Discuss future goals
	- Set new priorities
	- Promote the expression of saying goodbye and provide closure

[11]. Table 1 provides a detailed description of the individual FCR intervention.

Based on line graphs and qualitative interviews, it appears that the individual intervention can help survivors living with elevated FCR. Line graphs were created using weekly total scores for the FCRI and the IES. Data points were visually inspected to examine whether decreases in FCR and cancer-specific distress occurred for each participant by the end of treatment. While participants remained in the clinical range for FCR at discharge, line graphs indicated downward trends in the expected direction for both FCR and cancer-specific distress, and this downward trend accelerated after session 4 (i.e., once the participants' worst-case scenario had been processed). Furthermore, two of the three participants were no longer in the clinical range for cancer-specific distress by the end of the intervention.

Following completion of the intervention, the fourth author conducted qualitative telephone exit interviews with the participants. Content and thematic analysis of these interviews revealed that all participants found the intervention useful and reported that the sessions had favorable pacing and length. Participants described the importance of developing a trusting therapeutic relationship, developing new patterns of thinking, facing their worst-case scenario, and planning for the future as important mechanisms of change. An extensive description of the study methods and results is available by request from the first author.

This clinical intervention allows researchers to systematically focus on evidence-based treatments for managing FCR, and displays the availability of treatment options that can be offered in different therapeutic modalities. Qualitative exit interviews conducted with participants demonstrated that the intervention content, dosage, and timeframe was acceptable and satisfactory. However, further research is needed to identify the active therapeutic ingredients and mechanisms of change in the intervention. In order to assess the mechanisms of change, an in-depth analysis of participants' worst-case scenario is presently underway. Additional qualitative analyses should be conducted in order to further determine the active therapeutic ingredients present in the intervention.

A recent study showed that despite the prevalence of FCR, oncology specialists refer just over 20 % of patients with clinical FCR for psychotherapy services [12]. This small percentage of referrals speaks to the growing need for access to treatment and services for patients living with FCR. Fortunately, several interventions targeting FCR are presently being tested in randomized controlled trials [7, 8], which can lead to the development of evidence-based guidelines on the management of FCR.

Additional discussion between researchers and clinicians is necessary to establish a consensual definition and cut-off score for clinical FCR (Lebel et al., submitted). While the aforementioned definition of FCR is often cited, agreement on the definition of FCR and its diagnostic characteristics is lacking at the present time. Furthermore, while a score of 13 is the recommended clinical cut-off score for FCR on the FCRI's severity subscale [13], this score has been questioned and may not represent a true clinically significant decrease in FCR. Indeed, study participants reported experiencing less distress and were feeling better about their FCR upon completion of the intervention, despite their scores remaining above 13 on the severity subscale. Further research is required in order to accurately capture the core features of this phenomenon.

Intervention studies suggest it is possible to help cancer survivors deal with realistic FCR [4, 5]. This feasibility study is a first effort in offering the FCR intervention to patients with mixed cancer diagnoses. The results of this study have direct implications for clinical services for patients with cancer and may decrease the use of health care services by anxious individuals seeking reassurance. Furthermore, results show the potential to adapt a successful group therapy into an individual format, therefore promoting that this important therapeutic work can be done in a one-on-one setting. Overall, psychosocial interventions that target FCR can result in improved coping, enhanced psychological functioning, and ultimately improve and restore quality of life for cancer survivors.

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Compliance with ethical standards

Conflict of interest The authors declare that they have no conflict of interest.

Ethical approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.

Informed consent Informed consent was obtained from all individual participants included in the study.

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