A Single Session Intervention (The Mini AFTERc) For Fear of Cancer Recurrence: A Feasibility Study

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List of Abbreviations

AFTER – Adjustment to Fear, Threat and Expectation of Recurrence

FCR – Fear of Cancer Recurrence

FCRI – Fear of Cancer Recurrence Inventory

Mini-AFTERc – Mini-Adjustment to Fear, Threat and Expectation of Recurrence (cancer)

NPI – Nottingham Prognostic Index

SRM – Self-Regulation Model

Key Points

- Aim was to test a single-session, telephone delivered intervention to reduce FCR in breast cancer patients.
- 16 female breast cancer patients received the 30-minute, Mini-Adjustment to the Fear, Threat and Expectation of Recurrence (Mini-AFTERc) intervention.
- Intervention implementation was feasible with cancer nurse specialists and fidelity was high.
- Participants showed a significant decrease in recurrence fears at follow-up (effect size = 0.8; $p = 0.03$).
- Preliminary results suggest the Mini-AFTERc is effective in reducing recurrence fears in breast cancer survivors.

Introduction

One of the most prevalent concerns for cancer survivors is fear of cancer recurrence (FCR) [1], defined as 'the fear that cancer may return or progress in the same place or another part of the body'[2].
Roughly half of all cancer survivors report moderate FCR and an intensive intervention may be counterproductive for these patients. A short intervention used as part of routine care may be helpful to prevent FCR from increasing.
The six-session AFTER intervention [3] has been adapted into a single-session intervention named the 'Mini-AFTERc'. This, 30 minute, single-session intervention is designed for patients with moderate FCR and for it to be incorporated into routine cancer care by specialist cancer nurses. The intervention may assist patients with severe FCR, however the small duration and intensity may be insufficient. For higher FCR levels a multi-session intervention may be recommended e.g. [4]. The aim of this study was to conduct a small, feasibility study using the Mini-AFTERc intervention with breast cancer patients with moderate FCR. The objectives were to: (i) assess the feasibility of incorporating the intervention into routine care, (ii) evaluate the intervention effect and (iii) assess the fidelity to the intervention manual.

Methods

This study is single-site, repeated measures, and quasi-experimental. Recruitment of 16 patients was considered sufficient. Statistical power was over 80% from a change of pre- and post-Fear Cancer Recurrence Inventory-Severity (FCRIs) [5] of 4 scale units (SD of change = 6), assuming a correlation of 0.5 between pre- and post-measures.

Participants

Participants were eligible for study inclusion if they had: past breast cancer diagnosis (stages 1-3); completed primary treatment, scored >13 on FCRIs (range: 0-36); and ineligible for inclusion if they had a current, major psychiatric disorder, or were unable to give informed consent or converse in English. All patients over the FCRIs cut-off were eligible for inclusion, including patients with 'high' FCR levels. A referral line was created if patients required further assistance. Participants attending routine follow-up were recruited either face-to-face, by letter or telephone, from the current breast cancer centre patient list. All interventions were conducted within 4 weeks of baseline. Participants were contacted for follow-up 1 week post-intervention. The Mini-AFTERc intervention was delivered by three Clinical Nurse Specialists, who had an average of 15 years' experience. Five training worksite meetings on the Mini-AFTERc lasting 90 minutes each were conducted by the senior author with source book for supporting standard cognitive behavioural methods [6]. Ethical approval was granted by local Research Ethics Committee (ref: LR/14/ES/0035).

Outcomes

The primary outcome was feasibility of the study and the intervention. Secondary outcomes included efficacy of the intervention at reducing FCR and intervention fidelity.

Measures

Feasibility was assessed by recruitment uptake and drop-out rates. Incorporation into care system was assessed via short interviews with the nursing staff. The 9 item FCRIs was administered at baseline and 1-week post-intervention. Patients rate the affect, issue frequency and cognitions regarding FCR on a Likert-type scale from 0 ('not at all' or 'never') to 4 ('a great deal' or 'all of the time'). High scores indicate greater severity (possible range 0-36). Fidelity was measured by analysing consultation audio recordings and checking correspondence to the instruction manual. Demographic information including age, gender, marital status, cancer type, time since completion of primary treatment, treatment method and cancer prognosis (Nottingham Prognostic Index: NPI) was collected at baseline.

The Mini-AFTERc Intervention is based upon cognitive behavioural principles (Leventhal's self-regulation model) [7]. The intervention targets recurrence fears, inappropriate or excessive checking behaviours and general cancer beliefs. The Mini-AFTERc is designed to normalise the presence of these fears, without reducing the importance of vigilance in symptom change and appropriate self-checking.

The Mini-AFTERc intervention comprises 5 primary topics:

1. **A**ssessment – introduction of topics (2-5) and identification of which require detailed discussion.
2. **F**amily – discussion of issues surrounding the role family plays in their recovery from cancer, identifying supportive or antagonistic behaviour.
3. **T**houghts and Feelings – identification and discussion of symptoms and experiences related by patient experiences and associated cognitions.
4. **E**xpectation – discussion of attendance at outpatient clinics and self-examination behaviours.
5. **R**eturn of cancer – discussion of recurrence specific cognitions and thoughts about the future.

Data Analysis

A generalised linear model (Gaussian distribution) using a robust maximum likelihood estimator was applied with time (pre, post) as a between subjects factor, controlling for age and prognosis (NPI). Linear regression analyses were conducted using demographic and medical characteristics as predictor variables with change in FCRI score as the criterion. Statistics were calculated using STATAv13 [8] with 5% alpha level

(2 sided).

Results

A total of 16 participants completed the intervention. Sociodemographic and medical characteristics of the sample are presented in Table 1. No participants dropped out during the course of the study.

Feasibility

Over 3 months, 102 women were screened for eligibility and provided with baseline questionnaires; 66 women completed and returned the questionnaire. Of these, 23 did not meet the criterion score on the FCRI (14) and were not enrolled in the study. Of the remaining 43 patients we approached the first 18 consecutively for invitation to participate. 2 participants declined participation, due to illness (n=1) and inability to commit to time demands (n=1). The remaining 25 patients were not approached due to limited resources available. Baseline FCR level for all screened participants was 17.66 (n=66).
Nursing staff conducting the intervention deemed it useful and believed that it may reduce demands by patients with FCR on health service time and resources. They found the intervention layout to be easy to understand, follow and apply. They recommended the manual would benefit from additional example questions related to common patient concerns. Patients commented the intervention to be helpful and were pleased to have participated.

Changes in Fear of Cancer Recurrence

The FCR of 12 patients decreased from baseline to 1 week follow-up (Table 1). Results of the general linear model indicate a significant effect of time on FCR: coefficient = -4.21, robust standard error = 2.01, p = 0.032. Exploratory regression analyses showed that the variables: baseline FCR level, demographic, medical characteristics or nurse conducting the intervention were not predictive of FCR change.

Fidelity

Audio tapes were available from 12 consultations (four missing for technical reasons). Calls lasted between 11 and 43 minutes (mean = 25). Average fidelity score across all evaluated sessions was 20.4 (out of possible 24); an 85% adherence to the intervention guidelines.

Discussion

Findings of this feasibility study suggested that the single-session Mini AFTER intervention is effective at reducing FCR in breast cancer survivors. Furthermore, this improvement was not associated with initial

score of participants' FCR, their demographic or medical characteristics. Effect size for FCR change was relatively large (above 0.8)[9]. These initial results were promising.

Mean change in FCRI score (4.3) supports the principle of the Mini-AFTER intervention in that it could be beneficial to patients with moderate FCR. However a 4 unit reduction is likely not sufficient for patients with more severe recurrence fears, thus more intensive interventions of greater duration may be required. Implementation of the intervention and the study proved feasible. Some improvements to the manual were recommended including more examples. Additionally, staff did not feel the intervention placed a high demand on time, capability or financial resources, in fact they felt it may have the potential to lessen patient demand. A separate funded study will report on a more extended investigation of acceptability in specialist cancer nurses in the UK. Baseline FCR level for all screened breast cancer patients (17.7) was slightly higher than previous reports (14.3) [5]. Recruitment and attrition rates also supported the feasibility of the intervention in out-patient services. None of the recruited participants dropped-out from baseline and all completed follow-up.

The fidelity high scores indicated that the nursing staff were able to implement the intervention. It also suggests that the nurses could direct the flow of a therapeutic interaction to cover the large majority of requisite topics. However, low scores on the 'Symptom' topic were noted. Generally the staff were instructed to try and not get wrapped up in a medical assessment as is their primary training. As a consequence they may have over-compensated and not adequately discussed topics of a more medical nature. However, the generally positive results indicate that the initial training, supervision and the written Mini AFTER manual is relatively straightforward to implement. The high agreement in fidelity rating was reassuring.

There were some limitations. Most notably, this included low sample size. The intervention was not effective for every patient, change scores ranged from -20 to 8 (negative scores indicating a decrease in FCR; an improvement). Two patients whose FCR increased at follow-up had co-morbid issues (alcohol dependence and recent bereavement). These results should be viewed with caution due to the possibility of patients responding to demand characteristics. The follow-up was short. The present study provides a foundation for future research investigating this intervention through increased sample size, randomisation, longer follow up and use of a control condition.

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Table 1. Participants' demographic and medical characteristics (N= 16).

Fear of Cancer Recurrence

	M (SD)
Age in years	60 (11.7)
Time Since Treatment in months	10.1 (5.9)
Nottingham Prognostic Index (NPI)	3.7 (0.9)
	Percentage (N)
Gender:	
Female	100 (16)
Cancer Type:	
Breast	100 (16)
Marital Status:	
Single	12.5 (2)
Married	68.75 (11)
Widowed	18.75 (3)
FCRI:	
(pre)	24.8 (4.48)
(post)*	20.5 (7.13)

FCRI: Fear of Cancer Recurrence Inventory-Severity Subscale [5]

* $p < 0.05$

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