Interventions addressing fear of cancer recurrence: challenges and future perspectives

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Purpose of review
Fear of cancer recurrence (FCR) is a common concern among cancer survivors and support for FCR is one of the most cited unmet needs. High FCR was found to be related to increased use of healthcare services, specifically primary healthcare and medical consultations, and lower quality of life. In the past decade, screening instruments for FCR and interventions have been developed and proven effective.

Recent findings
Systematic reviews and meta-analyses have shown that psychological treatments are effective for reducing FCR. The cost-effectiveness of FCR interventions could be increased by considering stepped or matched models for supportive care. Despite availability of evidence-based interventions, the proposed care models are not implemented and most cancer survivors still do not benefit from supportive care.

Summary
The time is right to focus on implementation of FCR interventions into clinical practice. The complexity of optimizing FCR care is characterized by barriers and facilitators in the domains of patients, healthcare professionals, healthcare organizations and the broader economic, and political context. The main challenge for future research is to address these issues so that former investments in high-quality FCR intervention research will pay out in actual practice changes in the benefit of cancer survivors.

Keywords
fear of cancer recurrence, implementation, interventions, screening, supportive care models

INTRODUCTION
In the past decade research on fear of cancer recurrence (FCR) really has taken off. In 2015, a dozen researchers in the field of psycho-oncology joined in an expert meeting to reach consensus on a definition and clinical features of FCR [1]. An FCR special interest group (SIG FORwards) within the International Psycho-Oncology Society was founded, with nowadays more than 100 members. In a recent International Research Agenda the SIG identified intervention research as the most important focus for future FCR research. Development of models of care to provide greater access to FCR treatment and evaluation of the effectiveness of FCR interventions in real-world settings were considered as the two research items of highest priority [2]. In this review, we will outline the state of the art of FCR research over the past years from definition to intervention and the development of supportive care models. Challenges and needs regarding implementation of these interventions and care models into real-world psycho-oncology care will be described and discussed.

STATE OF THE ART
Since researchers in the early 1990s started to focus on FCR a tremendous effort was done by research groups among the world resulting in comprehensive knowledge about the definition, operationalization, measurement and intervention of this phenomenon. Resulting from a Delphi study among experts, FCR was defined as the fear, worry or concern that the cancer will return or progress [1]. On a continuum from normal and adaptive levels of FCR to high
KEY POINTS

- FCR interventions have been proven effective and several FCR care models have been proposed, but many cancer survivors still do not benefit from adequate supportive care for FCR.
- A universal first step to normalize feelings of FCR followed by a matched care model with interventions varying in intensity along FCR severity might be most feasible.
- Researchers should invest in a better understanding of local care systems and in evaluating existing evidence-based interventions and care models in real-world contexts with study designs informed by implementation science.
- Researchers should collaborate with different stakeholders involved with FCR care, policy and funding to select the most optimal implementation strategies to achieve behavior and system changes.

and clinical levels [3**], the prevalence of moderate-to-high FCR was estimated between 22 and 87%, depending on cancer-specific populations and measurements used [4]. Clinical FCR, characterized by high and persistent levels of preoccupation and worry, and hypervigilance to bodily symptoms [5**], affects a smaller proportion (7%). High FCR was found to be related to increased use of healthcare services, specifically primary healthcare and medical consultations, and lower quality of life [6**]. Specialized psychological support and interventions to manage symptoms are required [7]. To identify patients with high FCR (ultra) brief screening tools were validated and cutoffs provided [8,9,10*], enabling researchers to adequately select patients for intervention studies.

To inform interventions, different theoretical models of FCR were proposed, refined and occasionally tested. These models can be differentiated by their particular focus, including (in)tolerance of uncertainty [11], metacognitive beliefs about worry [11–13], the social context [13–15] or cognitive biases toward physical symptoms [16]. The models share a number of common features such as triggers (both external and internal), threat appraisal and risk perception, and unhelpful coping responses [15]. Based on these theoretical models, different psychological interventions for the management of FCR were proposed and tested both with FCR as primary and as secondary outcome. A systematic review and meta-analysis [17] evaluated 23 psychological intervention trials (21 randomized controlled trials) concluding that psychological treatments are effective for reducing FCR with different types of therapy resulting in different treatment outcomes favoring contemporary cognitive behavioral therapy (CBT) over traditional CBT. The cost-effectiveness of FCR interventions was evaluated stating that some interventions may be cost-effective in reducing FCR and improving quality of life and that the cost-effectiveness of FCR interventions could be increased by considering stepped or matched models of supportive care [6**]. The assumption is that costs remain manageable if only those cancer survivors with high FCR are allocated to face-to-face individual interventions. The majority of patients with mild-to-moderate FCR could be served by nonmental health specialists such as doctors and nurses providing patients with skills to address FCR early which may have value in preventing the development of severe FCR [18]. This is in line with a recent narrative review [19**] that provides an actual overview of the available interventions in different categories, ranging from psycho-educational to specialist care interventions. The authors stress the urgency of specific effective minimal interventions to meet the needs regarding FCR of an increasing number of cancer survivors. For future research these authors recommend to focus on the development and evaluation of minimal interventions for prevention and upskilling oncology professionals to deliver interventions for mild-to-moderate FCR in routine clinical practice. Other recommendations concern the improvement of existing interventions for severe FCR, adaptation of the available FCR interventions for those with advanced disease and testing models of stepped care to develop the most efficacious and highly implementable service model.

CURRENT CHALLENGES

As highlighted in the previous section, many interventions have been developed and tested and multiple ideas are published about how FCR care should look like and be organized. On the contrary, many cancer survivors still do not benefit from the available knowledge. According to Rankin et al. [20] the gap between intervention development research and actual practice is a universal challenge within the field of psycho-oncology. They encourage researchers to adopt knowledge and research methods from implementation science to bridge this gap and accelerate the translation of evidence into practice. Understanding how research findings and evidence-based practices relate to real-world settings would bring the field further. The complexity of optimizing FCR care is characterized by many barriers and facilitators in multiple domains, including the intervention itself; patients with various levels
of FCR; professionals involved in screening, referring for care, diagnosing FCR and delivering the intervention; the medical and mental health organizations; and the broader economic and political context. In this section, we will discuss the current challenges in the management of FCR from the perspective of these different domains. We will highlight questions on how existing knowledge could be translated to the complex eco-systems in the rapidly evolving psycho-oncological practice.

How do evidence-based interventions fit in real-world psycho-oncology care?

Most evidence-based FCR interventions have been developed and tested under controlled conditions, which differs in many ways from the real world setting of psycho-oncology care. An important challenge is to understand how psycho-oncology care is currently organized and to identify barriers and facilitators for implementing FCR interventions within this context.

To our knowledge, only one study described barriers and facilitators impacting sustainable delivery of an evidence-based FCR intervention (ConquerFear) in routine clinical practice [21]. Other barriers and facilitators for providing psycho-oncological care are known from the broader psycho-oncology literature [20]. In the professional domain, it is important that the psychologist providing the intervention perceives a need for specific FCR interventions and experiences the intervention as credible and efficacious. Barriers can occur when the interventions do not match psychologists’ therapeutic orientation, background or attitude. The study of Butow for example describes reservations of some psychologists toward the manualized format of ConquerFear. The uptake of FCR interventions is also highly dependent upon referral from healthcare professionals (HCPs). Several barriers for HCPs have been reported, including limited referral [21], lack of knowledge about psycho-oncology, attitudes and beliefs toward psychosocial care, low self-efficacy to address mental health and limited formal screening [20]. In the organization domain, the fit of the intervention with the service is crucial. An intervention that follows the usual patient flow and structure of therapy sessions is more likely to be implemented [21]. Other organizational barriers may include low organizational priority for addressing FCR, lack of resources (e.g. time, staff, systems and finances) and lack of social reinforcement for the intervention [20,21]. These studies provide valuable insight in common occurring barriers. Most of this knowledge has been reported by HCPs, while less studies focused on the patients’ perspective and broader economic and political context. Furthermore, the care for FCR is diverse across countries, regions, institutions and even departments. The fit of interventions within the real world care is highly context specific and therefore it is difficult to generalize these barriers to other contexts. This is especially the case when existing FCR interventions are implemented in non-English-speaking countries or minority groups.

Effectiveness under real world conditions

Sufficient evidence for an intervention is an important condition for implementation. The ‘efficacy’ of evidence-based interventions is often based on trials maximizing internal validity, at the cost of external validity, and is therefore not generalizable to the ‘effectiveness’ under real world conditions [22]. Trial participants are actively recruited and selected following strict inclusion and exclusion criteria [22], which in FCR trials often involves specific medical characteristics, low comorbidity or complexity and high FCR severity scores. This likely results in a study sample that is not fully representative for the actual patient population in psycho-oncology services. Regular referral procedures may result in a more diverse medical background with more comorbidity or complex psychological problems. In clinical practice, suitability for psychological treatment will likely be assessed through psychologists’ clinical interpretation of FCR severity, factors like need for help and patient preferences rather than a single score on a questionnaire. Another important difference between efficacy and effectiveness is whether the intervention was delivered as intended [22], also referred to as fidelity of implementation [23*]. Trial psychologists are well trained, supervised and motivated to adhere to the study protocol and they are facilitated by optimized study circumstances. Outside study contexts, psychologists might more often make amendments to the protocol and feel hindered by organizational barriers, possibly reducing intervention effectiveness. To make sure that existing evidence-based interventions remain effective under real world conditions, it is therefore highly important to evaluate the fidelity of implementation [23*], and their effectiveness in real world settings, as recommended by the international FCR community [2**].

Right patient at the right place

An important question for implementation pertains to which patient should receive which intervention. Stepped care models propose that a simple, inexpensive intervention such as psychoeducation or a
self-management intervention will be provided first to all cancer survivors. A more complex intervention is offered if a person continues to have clinically significant levels of FCR, and so the process continues as the steps become more complex [19**]. In a stratified or matched care approach, cancer survivors are screened first with FCR sensitive screening instruments, followed by an assessment at intake to tailor (the nature of) FCR interventions to the severity of FCR, different presenting risk factors [19**,24] and preferably also to patient’s needs and wishes.

These approaches require that FCR screening and assessment are adequately implemented in routine oncology care. In practice however, FCR is commonly underrecognized, due to barriers in the patient, professional and organizational domain. Patients may not be aware that interventions are available for elevated FCR. They report barriers to talk about psychological issues, especially in the context of a medical appointment (Deuning-Smit E, unpublished data) and may feel reluctant to raise FCR with their doctor, seeming ungrateful or afraid of damaging the doctor–patient relationship by questioning the efficacy of their treatment [18,25*]. As FCR is not strongly related to clinical variables [4] it is difficult for HCPs to differentiate between mild adaptive FCR and more severe clinical levels of FCR [25*]. In a study asking specialist breast cancer nurses about experienced challenges in assessing and managing FCR [26] they reported lacking the tools for adequate assessment. Brief FCR screening tools may help HCPs to identify those with high FCR. While several screening instruments have been developed and validated for detecting elevated levels of FCR, these have not been widely implemented in clinical practice. This might be the result of the screening performance and length of existing measures [25*], but also due to variability in the organization of healthcare systems with regard to the cancer follow-up setting, making it challenging who should screen at what time with which screening tool. Efforts are currently undertaken to develop ultra-brief or even single-item screeners [10*,25*]. However, adding another (FCR specific) screening tool in addition to generic distress screening is not likely to be feasible. Therefore, research should also focus on the screening capacity of commonly used psychosocial screening instruments such as the distress thermometer to detect high FCR in routine care as these are recommended in clinical practice guidelines. The distress thermometer also identifies whether someone is willing to talk to a professional which can be interpreted as expression of need for help. This is important as need for psychological support is not necessarily related to the level of distress, but rather to other factors among which being female, younger age and having a support seeking coping style [27]. Consequently, patients with low FCR levels can have an urgent need for help and patients with high FCR express no need for help. Clinical assessment following screening has become even more important in light of matched care approaches and patients wishes/need for help. A golden standard clinical interview systematically assessing these features is still lacking. Although a standard clinical interview might be helpful in FCR research for entry into FCR interventions, this might not be optimally feasible or needed in clinical practice. Features of clinical FCR were carefully determined and listed as guiding questions and responses that might indicate clinical significance [3**,5**]. This might be sufficient for HCPs in accurate assessment and referral of patients in need for help with FCR.

Taking into account the growing number of cancer survivors, from a practical and economical point of view, but also from the perspective of the patients, HCP’s and the organizational context, the combination of a first universal step of normalizing FCR in consultations with the doctor or nurse followed by matched care for those experiencing elevated feelings of FCR [3**] might be most feasible to implement. This approach is supported by trajectory studies indicating a large group of patients experiencing low levels of FCR over time [28,29] a large group of patients experiencing moderate and fluctuating FCR over time [29], and a smaller proportion experiencing continuous high FCR over time [28,29] all benefitting from normalizing FCR and those with moderate or high FCR in need of matched supportive care [29].

**Strategies to implement evidence-based interventions**

To facilitate implementation of FCR interventions, implementation strategies will help to achieve the required changes in individuals behavior and healthcare systems [20]. Many general strategies have been proposed in the implementation literature, including sharing knowledge, educational activities (materials, training and supervision), audit and feedback, reminders, engaging stakeholders, identifying local opinion leaders and champions, changing organizational structures and funding the innovation [30]. Within the FCR research community, several developments toward implementation have been proposed and exchanged, including dissemination of therapist training and intervention materials, the adaptation of existing interventions to other formats and local initiatives to improve
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sustainability after randomized trials. To our knowledge, experiences with and the effectiveness of implementation strategies have not been published. We highly encourage researchers to share knowledge about implementation strategies. Implementation projects guided by implementation frameworks are recommended to increase successful implementation [20].

CONCLUSION

Systematic reviews have shown that high quality interventions for moderate-to-high FCR are available. In this review, we discussed challenges regarding implementation of these evidence-based interventions in real-world psycho-oncological settings. Areas of focus include better understandings of local care systems, cross-cultural adaptations of interventions, external validity and effectiveness of interventions under real world conditions.

It is impossible to reflect on the feasibility of FCR interventions without considering the broader context of supportive care models. The place, person and tool to screen for FCR severity become increasingly important for right allocation of patients to adequate care. In our view, a stepped care model is not preferred from a personalized care and economic perspective, since patients with high FCR go through various stages before ending up in the right intervention. A universal first step should be that doctors and nurses normalize feelings of FCR in the routine cancer follow-up consultations. Thereafter, matched care for those experiencing elevated feelings of FCR with interventions varying in intensity along FCR severity might be most optimal. However, barriers for screening and assessment should be addressed first before an FCR care model can be implemented in routine care.

We have shown that the implementation of interventions and care models is a complex process involving different domains. Little literature exists about barriers and facilitators, and existing literature is mostly focused at barriers for professionals or organizations while less is known about the perspectives of patients, apart from studies assessing need for psychological help. While patients are more and more involved in the cocreation of new FCR interventions, they are also crucial stakeholders for implementation. Assessing patients barriers for addressing FCR, seeking psychological help and completing FCR interventions will help to improve the uptake of available interventions. Also evidence is missing for the feasibility of interventions and care models from a broader economic and political perspective. While existing interventions are cost-effective in randomized trials, their feasibility in real-world care also depends on mental health funding reimbursement models, available funding for implementation initiatives, costs associated with screening and referral, legislation and healthcare structure.

We have several recommendations to address these challenges in the future. First, it is important that researchers involved in FCR intervention research invest in a better understanding of local care systems and in evaluating evidence-based interventions and care models in these different real-world contexts throughout all phases of development and implementation. This requires the use of additional study designs like qualitative and mixed methods, but also observational designs, process evaluations and economic evaluations [20]. Studies should not only evaluate interventions effectiveness in reducing FCR, but also their feasibility within (matched) care approaches and care systems. In this respect, the collaboration with different stakeholders becomes even more important [20]. Changes in practice are rarely achieved by individual studies or researchers, especially when it comes to policy, legislation or funding [31]. Involvement of researchers, policy makers, managers, insurance companies, HCPs and patients helps to collect all the relevant factors and select the most optimal implementation strategies. Engaged stakeholders may also have the credibility, contacts and experience to advocate this. Future research on these topics helps to ensure that the time and money invested in FCR intervention research will lead to actual practice changes in the benefit of cancer survivors.

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Conflicts of interest

There are no conflicts of interest.

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- of special interest
- of outstanding interest

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