

Fear of Progression in Cardiac Patients: Suggestions for Further Developments of the Construct

Fear of progression (FoP) is a multidimensional psychological construct developed in the oncological field, which describes the persistent fear and worry about the potential advancement or worsening of a chronic illness, including concerns about the associated consequences and outcomes. FoP typically arises from rational and contextually appropriate apprehension about the uncertainties and risks associated with living with a chronic condition,^[1] unlike generalized anxiety, which is often characterized by disproportionate apprehension. The FoP construct has been extensively studied in the oncological setting, where it has been identified as the most common psychosocial issue experienced by cancer patients and survivors. Various tools have been developed for FoP assessment. One of the most commonly used in oncologic patients is the short form of the Fear of Progression Questionnaire (FoP-Q-SF),^[2] a 12-item self-reporting questionnaire. However, in general, assessment tools for FoP have not received adequate psychometric validation^[1] presenting cutoffs that are only derived from theoretical or statistical consideration. Given the significance of FoP construct in the oncological context, Alun Jackson's paper aims to conceptualize it in the context of cardiac settings, emphasizing the need for a refined understanding and measurement of this psychological construct in this field.^[3] His paper assumes significance for different reasons. Giving emphasis on the challenges associated with the application of generic FoP measurement tools in the context of cardiac patients, it underscores the pressing need for a more differentiated and tailored approach to the assessment of FoP in this specific cohort. It also highlights the limitations of existing standardized psychological care frameworks that often fail to capture the nuanced fears and concerns characterizing cardiac patients beyond anxiety. Moreover, Jackson's paper also raises some relevant issues for the future development of the FoP conceptualization in cardiac patients that we would like to address in the present commentary.

In the oncological field, FoP falls under the umbrella of fear of cancer recurrence, a broader term that encompasses both FoP and fear of recurrence (FoR).^[4] FoR is conceptualized as the fear of the chronic disease reoccurring, commonly experienced in chronic illnesses marked by intermittent acute episodes and/or remission periods (e.g., cancer, multiple sclerosis).^[1,4] Although there are overlaps in the context of beliefs and intrusive thoughts, the two constructs are distinct.^[5] In particular, in FoR, body threat experience and risk perception are enhanced when compared to FoP. In the field of cardiology, this distinction could be particularly relevant. Indeed, certain cardiac conditions are more commonly characterized by the recurrence of acute episodes (e.g., acute coronary syndromes), which can occur even several years after

the initial episode, while others by the progressive worsening of the disease (e.g., heart failure). The two constructs also entail different concerns^[4] that might necessitate distinct measures and clinical approaches for their management.

Differences between cardiac conditions should also be taken into consideration since, as shown by Jackson, the limited studies conducted on FoP in cardiac patients have demonstrated different levels of prevalence of FoP depending on the specific cardiac condition. Moreover, considering the typically multimorbid nature of chronic cardiac diseases,^[6] such as heart failure, specific strategies for assessing cardiac disease-related FoP in these patients should be implemented for a comprehensive conceptualization of the construct (e.g., comparing samples of multimorbid and nonmultimorbid cardiac patients).

On the other hand, FoP construct shares various characteristics or is associated with other similar constructs focusing on the distressing experiences of patients with chronic illnesses. As emphasized by Jackson, disease-related fears spanning various domains are also part of the cardiac distress construct.^[7] Furthermore, FoP has been considered a significant component of the health anxiety construct.^[8] Finally, in the field of cardiology, the construct of cardiac anxiety describes the "fear of heart malfunctioning or disease"^[9] and it is often associated with anxious responses similar to those related to FoP (e.g., reassurance seeking and hypervigilance of symptoms).^[9] As suggested by Sharpe *et al.*,^[4] further analysis of FoP should assess the extent to which it correlates and overlaps with similar constructs, as well as the differential characteristics. A comprehensive assessment of FoP, psychiatric and psychosomatic conditions, and other associated constructs could be relevant for identifying interactions between these different facets of psychological distress experienced by cardiovascular patients, as already emphasized by Jackson in the recent construct of cardiac distress.^[7]

In a dimensional approach, the level of FoP in chronic illness has been observed to be negatively correlated with quality of life and positively correlated with anxiety and depression scores, along with dysfunctional behavioral responses.^[4] At the same time, the presence of primary psychopathology before the actual clinical condition should be taken into consideration, as it could influence FoP levels. In the same vein, clinical manifestations of FoP should be further investigated to determine the relationship between this construct and acute psychological manifestations, such as panic attacks, and to assess whether this relationship is not dependent on other preexisting psychiatric disorders and syndromes.

On the other hand, the presence of fear of disease progression, as acknowledged by Jackson, could also be associated with recommended behavioral changes, such as the adoption of a healthier lifestyle^[10] or enhanced treatment adherence.^[3,11] This is in line with the results from Porcelli *et al.*,^[12] who highlighted how a higher level of health anxiety is associated with symptom improvement in patients with gastrointestinal functional disorders, suggesting a potential adaptive behavioral response related to the experienced anxiety. Thus, it will be highly suggested to establish a differentiation between different levels of FoP and their respective negative and potentially positive effects on individuals' health. In this perspective, a specifically designed measure for the assessment of FoP construct could have the potentiality of a clinimetric index, which – thanks to a greater sensitivity – may support the identification of vulnerable subgroups of patients in medical settings.^[13,14] However, to date, implementing a dimensional approach has been challenging for various reasons. As previously anticipated, a validated cutoff for the most commonly used tests for FoP assessment has yet to be determined. Moreover, as emphasized by Jackson, the current assessment tools used for evaluating FoP lack comprehensiveness for specific chronic illnesses, particularly in the case of cardiac pathologies.

In the same vein, an extensive time-based contextualization of FoP should be considered to better understand the nature of this construct. For instance, Jackson observes that FoP levels, when evaluated through some items of the Cardiac Distress Inventory^[15] questionnaire, appear stable in the 1st year after various types of cardiac events, a finding consistent with the review by Simard *et al.*^[16] that observed stable FoP levels in cancer survivors. However, a more extended evaluation specific to cardiac patients, through a specific tool for FoP assessment, should be conducted to understand the effects of time on FoP levels comprehensively. According to a time-based evaluation, other characteristics should be assessed as well, either in the presence of FoP or before the actual cardiac event or diagnosis as risk/protective factors. This kind of approach would allow a better understanding of the construct, related behavioral responses, and the potential for its treatment when dysfunctional. Some of these characteristics could include not only personality traits (e.g., neuroticism),^[16] trait anxiety,^[17] and trait mindfulness^[18] but also allostatic overload and patients' attitude toward illness.^[19]

Finally, it has been theorized that FoP in cardiac patients could have relevant effects on patients' prognosis through direct and indirect pathways.^[20,21] However, to the best of our knowledge, a specific exploration of this association through longitudinal analysis has not been conducted yet. An enhanced understanding of the effects of dysfunctional FoP levels on individuals' physical health could promote the integration of FoP assessment and treatment in interdisciplinary health contexts, such as cardiological units.

In conclusion, the present commentary emphasizes the potential need highlighted by Jackson for a comprehensive

approach to the conceptualization and measurement of FoP in the specific context of cardiac settings. While FoP management has been identified as one of the most commonly unmet needs of oncological patients and survivors, further investigations are required to assess whether this need is also prevalent among cardiac patients. Through a multidimensional exploration of FoP implications and associations with related constructs, we recommend a nuanced understanding of patients' experiences and suggest tailored approaches to address their psychosocial needs accordingly. By shedding light on the gaps and limitations in existing research, we hope to provide a valuable foundation for future investigations and the development of targeted interventions to support cardiac patients in managing their fears and concerns.

Author contributions

Graziano Gigante performed the literature search and, together with Sara Gostoli and Chiara Rafanelli, formulated the concept, defined the intellectual content, and wrote the first draft of the manuscript. Regina Subach contributed to manuscript editing. Each co-author contributed to the manuscript review. All authors have given final approval for the current version to be published.

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