

## Mini Review

# Mechanisms of Change in Cognitive-Behavior Therapy for Panic Disorder: Clinical Implications and Recommendations

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- Panic disorder
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## Abstract

Panic disorder is a chronic condition that is associated with significant impairments in marital, social, and occupational functioning as well as in poor health and overall quality of life. Fortunately, effective pharmacological and psychosocial treatments are available. Cognitive-behavioral treatments (CBT), particularly Panic Control Treatment (PCT) or modifications of it is considered the most effective psychosocial treatments. Numerous studies have found PCT to be successful in a variety of “real life” settings, such as community mental health, primary care, and private practice. While PCT is an effective treatment for panic disorder, not all patients respond and relapse is a concern. Therefore, attempts to improve on the effectiveness of treatment are underway. Identifying mechanisms of change that mediate treatment response may lead to targeting the most relevant treatment components and result in more efficient and efficacious interventions. Mechanisms that have received the most investigation are anxiety sensitivity and panic-self efficacy/perceived control. Both factors have been shown to mediate treatment outcome. Clinical implications and recommendations for targeting these mechanisms are discussed.

## INTRODUCTION

Panic disorder is a chronic condition that is associated with significant impairments in marital, social, and occupational functioning as well as in poor health and overall quality of life. Panic disorder patients have the highest rates of health care utilization relative to patients with other psychiatric diagnoses [1-3].

Fortunately, effective pharmacological and psychosocial treatments are available. Cognitive-behavioral treatments (CBT) are considered the most effective psychosocial treatments [4,5]. Most CBT interventions consist of Panic Control Treatment (PCT) [6] or modifications of it [7]. Efficacy studies found PCT to be successful when delivered in both individual and group treatments. Subsequent effectiveness studies found PCT to be effective in a variety of “real life” settings, such as community mental health, primary care, and private practice [5,7,8]. While PCT typically consists of 12 to 15 sessions, shorter but still effective PCT approaches have ranged from one to seven sessions [6,7].

The core components of PCT are cognitive restructuring and exposure to feared bodily sensations and avoided activities. Cognitive interventions are largely based on Clark's [9] catastrophic interpretations of bodily sensations model, in which harmless bodily sensations are interpreted as signs of imminent

danger, e.g., having a heart attack or stroke, fainting, or losing control. Exposure targets feared bodily sensations (interoceptive exposure) and situations avoided for fear of having panic attacks (*in vivo* exposure). While PCT is an effective treatment for panic disorder, not all patients respond and relapse is a concern [5]. Therefore, attempts to improve on the effectiveness of treatment are underway. Identifying mechanisms of change that mediate treatment response may lead to targeting the most relevant treatment components and result in more efficient and efficacious interventions.

Mechanisms that have received the most investigation are anxiety sensitivity and panic-self efficacy [10]. Anxiety sensitivity refers to the degree to which the individual perceives bodily sensations as immediately dangerous. Perceptions of danger can be physical (heart attack), mental (going crazy), or social (rejection). Anxiety sensitivity has been shown to be a risk factor for the development of panic disorder and recently has been shown to mediate change in CBT for panic disorder.

The other factor that has been shown to render individuals vulnerable to developing panic disorder and mediate change in CBT for panic disorder is perceived control of emotion, threat, and stress [11]. Panic self-efficacy, similar to perceived control, refers to individuals' perceived competence in the ability to cope with future panic attacks and related physical symptoms.

In a large study of CBT for panic disorder (N= 361), anxiety sensitivity and self-efficacy were measured throughout the course of treatment and uniquely preceded patients' changes in panic symptoms and predicted therapy outcome [10].

## CLINICAL IMPLICATIONS

Gallagher and colleagues [10] found that reductions in anxiety sensitivity occurred early in treatment, before the introduction of interoceptive and *in-vivo* exposure to panic sensations and situations. It appears likely that psychoeducation, essentially cognitive restructuring of catastrophic misinterpretation of bodily sensations, may instill hope that change is possible and enhance patients' willingness to engage in actual exposure to feared sensations and situations, which will then facilitate improvements in panic self-efficacy.

In a systematic review and meta-analysis, Fentz and colleagues [12] also found panic self-efficacy to be a mediator of outcome of CBT for panic disorder. The authors make a very important, clinically relevant point, that patients may be able to enhance self-efficacy/perceived control by paradoxically actually letting go of control and accepting panic symptoms when present. If we view a panic attack as a false alarm, which triggers the fight or flight response, e.g., rapid heartbeat means heart attack, efforts to directly stop the fight or flight response are bound to fail, given the hard-wired survival oriented mechanism of this response. Clinicians should therefore teach their patients that trying to control a process that one could not directly control leads to increased feelings of being out of control. Paradoxically then, in the midst of a panic attack, mindful acceptance of the anxious thoughts and physical sensations will increase panic self-efficacy [13].

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