



Chapter 1

Exercise and Psychotherapy in the Treatment of Anxiety Disorders

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ABSTRACT

Anxiety is one of the most common mental health conditions experienced worldwide. As such, there is significant investment into the treatment of this disorder and to alleviate the effects it has on the individual. While various interventions exist, such as pharmacotherapy, psychotherapy, and lifestyle interventions, more is needed to combat the growing scope of anxiety. This chapter presents empirical evidence for combining two effective treatments: psychotherapy and physical exercise. It also suggests some practical ways in which this can be integrated in healthcare systems. Additional recommendations are provided to facilitate this integration of this combined treatment for both consumers and healthcare professionals.

INTRODUCTION

Mental health conditions constitute a broad spectrum of psychologically related maladies impairing or reducing functionality in varied settings. Within this spectrum is a range of commonly formed categories linked by symptoms and aetiology, including, but not limited to, anxiety, depression, traumatic stress disorders, and obsessive-compulsive disorder (American Psychiatric Association [APA], 2013). Grouped epidemiological data from 63 countries has indicated that the most prevalent of these mental health categories is *anxiety*, with a lifetime prevalence of 12.9% (Steel et al., 2014). Data from the World Health Organisation (2019) estimates that over 301 million people (including 58 million children)

DOI: 10.4018/978-1-6684-6040-5.ch001

worldwide experience anxiety at a clinical level. Given the paucity of epidemiological data or accurate diagnostic tools in many low-resource nations across the Global South, it is likely that these numbers are also drastically underestimated.

So, what is *anxiety*? Anxiety disorders comprise various psychological experiences linked by overlapping symptoms and coping mechanisms. Typically, anxiety is defined as abnormal, excessive, prolonged, or inappropriate fear (APA, 2013). Within the Diagnostic and Statistical Manual for Psychiatric Disorders, Fifth Edition (DSM-V), there are 12 distinct types of anxiety (see *Table 1*). The subject of this fear differs between disorders and can be retrospective (rumination) or speculative (worry). Symptoms of anxiety can include bodily or somatic symptoms, such as tachycardia, feeling ‘on edge’, restlessness, headaches, stomach aches, and fatigue (Simon et al., 2020). Cognitive and emotional responses can also include irritability, difficulty concentrating, and problems sleeping. A common coping mechanism across most anxiety disorders is *avoidance* of people, places, and things to reduce their experience of adverse bodily reactions or anxious feelings (Hofmann & Hay, 2018). Chronic exposure to anxiety can also impact cognition, executive function, and self-perception, leading to the overuse of unhelpful heuristics and self-defeating attitudes, which ultimately perpetuate fear (Clark, 2020).

Numerous models attempt to explain the overarching concept of anxiety and the development and maintenance of anxiety disorders (Nebel-Schwalm & Davis III, 2013). The most widely used are the ‘Cognitive-Behavioural’ models. Behavioural models hypothesise that anxiety predominantly arises due to fear conditioning and generalisation of this fear to other stimuli (Duits et al., 2015), with this being the conceptual basis of treatments like *exposure therapy*. Similarly, cognitive models explain how maladaptive thought patterns perpetuate potentially acquired fears and inhibit new learning about fearful stimuli. Cognitive and behavioural neuroscience and imaging research have identified abnormalities or malfunctions in specific neuroanatomic areas predisposing individuals to anxiety, especially the amygdala and the insular cortex (Shin & Liberzon, 2010). These areas appear crucial in the process of fear conditioning and extinction learning, both of which underly the development and maintenance of anxiety. Fear conditioning is the process in which creatures begin to associate stimuli in their environment after an event causing fear, while extinction learning is a process in which this process can be reversed (Lissek et al., 2005). Cumulative epidemiological research has also identified numerous personal risk factors influencing the development of anxiety, including lower socioeconomic status, family history of ill mental health, and adverse childhood experiences (Blanco et al., 2014).

The COVID-19 pandemic has also seen an increase in mental health diagnoses, especially anxiety disorders (Bower et al., 2022; Kessler et al., 2022). A rapid review by Sydney University’s Matilda Centre aggregated international evidence and found significant probable increases in anxiety from pre-pandemic until the middle of 2022 (Bower et al., 2022). Their findings also indicated that specific groups were especially vulnerable during this period, including adolescents, pregnant and post-partum women, and those hospitalised with COVID-19. The pandemic appears to have increased diagnoses of anxiety disorders by up to 25%, presenting a primary international public health concern (Santomauro et al., 2021). There is also a widening treatment gap within the area of mental health in general, especially between high- and low-resource nations (Alonso et al., 2018). Given the growing concern about anxiety, it is crucial to understand what types of treatments are available and discuss how they can be improved to help alleviate the crippling effect of anxiety on consumers.

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