The Effectiveness of Internet-Based Mindfulness Interventions for Physical and Mental Illnesses: A Narrative Review

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ABSTRACT

The rapid growth of information technologies, such as the internet, smartphones, and videoconferencing has improved the access to mindfulness therapies, which focus on enhancing one’s awareness of the present moment. This review paper attempts to provide an overall picture of the effectiveness of internet-based mindfulness therapies. After a brief introduction to the concept of mindfulness and a presentation of the literature search methods, this review focuses on the effectiveness of internet-based mindfulness therapies. Specifically, the review discusses the role of internet mindfulness therapies in the treatment of physical illnesses, such as chronic pain, irritable bowel syndrome, tinnitus, diabetes, and cardiovascular illness. Then, the applications of online mindfulness therapy to the treatment of mental illnesses, such as depression, stress, binge eating disorder, and suicidal ideation, are described. The review concludes with a discussion of potential future research directions.

Keywords: Internet, Mindfulness, Physical Illness, Smartphones, Therapy

INTRODUCTION

Mindfulness is “the awareness that emerges through paying attention on purpose, in the present moment, and nonjudgmentally to the unfolding of experience moment by moment” (Kabat-Zinn, 2003, p. 144). Specifically, mindfulness practice brings the inner workings of the mind and how it reacts to certain stimuli into conscious awareness, which provides individuals with an opportunity to contemplate and change their maladaptive responses. For example, if an individual with chronic lower back pain undergoes a mindfulness-based treatment, he may become increasingly aware of his consistent, yet unsuccessful, attempts to...
avoid his pain. Rather than being successful, these avoidant reactions actually prolong and increase the amount of suffering associated with experiencing pain (Kabat-Zinn, 2003). Through the course of treatment, he would build present-focused awareness of his pain, which would empower him to change his conditioned responses to the pain (i.e., avoiding or exacerbating) in favor of less reactive, acceptance-based responses (Hooker & Fodor, 2008).

Despite the fact that the construct of mindfulness meditation can be traced back to eastern Buddhist practices, its presence in the western medical and psychological research literature is relatively new. Over the past few decades, this construct has come to be considered a natural aspect of human consciousness, which when nurtured, can produce benefits in the treatment of physical and mental illnesses (Hooker & Fodor, 2008). Although mindfulness is the primary term used in the research literature, recent cognitive-behavioral therapies (CBTs) have adopted mindfulness practices as components of their treatments and fall under the category of third-wave behavior therapies. Of these CBTs, there are major treatments founded on mindfulness practice such as, Mindfulness-Based Stress Reduction (MBSR) and Mindfulness-Based Cognitive Therapy (MBCT) and those that integrate mindfulness components with other treatment modalities which include, Dialectical Behavioral Therapy (DBT) and Acceptance and Commitment Therapy (ACT).

One of the first published studies demonstrating the effectiveness of mindfulness as a therapy was conducted by mindfulness-pioneer, Jon Kabat-Zinn with individuals with chronic pain in their lower back, neck, shoulders, and head (Kabat-Zinn, 1982). Within this study, 51 participants underwent a 10-week Stress Reduction and Relaxation program in order to increase their self-regulation. At the conclusion of the therapy program, a majority of the patients demonstrated reductions in their self-reported pain ratings, number of medical symptoms, negative effect, and psychiatric symptoms, which remained stable at a 7 month follow-up (Kabat-Zinn, 1982). These positive effects of mindfulness training encouraged many subsequent studies examining the impact of mindfulness meditation in the treatment of several physical and mental illnesses.

While face-to-face delivery of mindfulness therapy is currently the most common technique used in practice, the paucity of individuals trained in delivering these therapies has limited the number of people that can receive this treatment (Ruff & Mackenzie, 2009). However, the rapid growth of information technologies, such as the internet, smartphones, and videoconferencing has improved access to mindfulness training. Since there are different modes that can be used to deliver mindfulness training, several different labels have emerged to describe online mindfulness therapies including, internet cognitive-behavioral therapy (ICBT), distance education, telemedicine, mindfulness-based mobile therapy, internet-delivered exposure and mindfulness-based treatment, online mindfulness-based intervention, internet-based acceptance-based intervention, and web-based mind-body intervention. Even though there are variations between these therapies, they share a common focus of teaching mindfulness practices to improve patient recovery and overall functioning.

There have been significant contributions made to review and advance the current knowledge concerning the effectiveness of face-to-face mindfulness therapies within the last ten years (Bohlmeijer, Prenger, Taal, & Cuijpers, 2010; Hofmann, Sawyer, Witt, & Oh, 2010). In addition, the increase of internet-based therapies has also yielded seminal reviews of the effectiveness and acceptability of ICBT in general (Andersson, 2009; Andersson, Bergström, Buhrman, Carlbring, Holländare, Kaldo & Waara, 2008; Andersson & Kaldo, 2004; Andersson, Ljótsson, & Weise, 2011; Hedman, Ljótsson & Lindefors, 2012; Johansson & Andersson, 2012). These reviews inspired the present review to synthesize these two research areas by focusing specifically on the efficacy of internet-based mindfulness therapies. Given
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