



Mindfulness-Based Interventions in Oncology: Effects on Psychological Well-Being and Coping A Narrative Review

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Abstract

Cancer diagnosis and treatment are frequently associated with significant psychological distress, including anxiety, depression, fatigue, emotional dysregulation, and reduced quality of life. Mindfulness-based interventions (MBIs), such as Mindfulness-Based Stress Reduction (MBSR) and Mindfulness-Based Cognitive Therapy (MBCT), have increasingly been integrated into psycho-oncology care as supportive therapeutic approaches. The present narrative review synthesizes current evidence regarding the effectiveness of mindfulness-based interventions among cancer patients and survivors. Literature from peer-reviewed studies published between 2010 and 2025 was reviewed using databases including PubMed, PsycINFO, Scopus, Web of Science, and Google Scholar. Findings from randomized controlled trials, systematic reviews, and meta-analyses consistently indicate that mindfulness-based interventions contribute to reductions in anxiety, depression, psychological distress, cancer-related fatigue, and sleep disturbances while improving coping abilities, emotional regulation, and overall quality of life. Despite promising findings, methodological limitations such as heterogeneity in intervention protocols, reliance on self-report measures, and limited long-term follow-up remain evident. Overall, the evidence supports mindfulness-based interventions as valuable complementary approaches within supportive oncology care. Future research should focus on standardized intervention protocols and long-term outcomes to further strengthen the evidence base.

Keywords: mindfulness-based interventions, psycho-oncology, cancer, psychological well-being, quality of life, anxiety, depression, coping.

Introduction

Cancer continues to represent a major global health concern and is associated with substantial psychological, emotional, and social challenges. Advances in medical treatment have improved survival rates, leading to increased attention toward survivorship and quality of life among individuals living with cancer. Alongside physical symptoms, many patients experience anxiety, depression, fear of recurrence, emotional distress, and treatment-related fatigue. Consequently, psycho-oncology has emerged as an important interdisciplinary field focused on addressing the psychological needs of cancer patients and survivors.

Mindfulness-based interventions have gained increasing recognition within oncology care because of their potential to enhance psychological adjustment and emotional resilience. Mindfulness refers to maintaining non-judgmental awareness of present-moment experiences and has been adapted into clinical interventions such as Mindfulness-Based Stress Reduction and Mindfulness-Based Cognitive Therapy. These interventions commonly incorporate meditation practices, mindful breathing, body scan exercises, and psychoeducational techniques aimed at improving coping and stress management.

Existing literature suggests that mindfulness-based interventions may reduce psychological distress and improve quality of life among cancer patients. However, variations in intervention formats, study designs, and outcome measures highlight the need for a comprehensive narrative synthesis of the available evidence.

Psychological Distress and Emotional Well-Being

A substantial body of evidence indicates that mindfulness-based interventions significantly reduce anxiety, depression, and psychological distress among oncology populations. Meta-analytic evidence demonstrates small-to-moderate improvements in mental health outcomes following participation in mindfulness programs. Several randomized controlled trials also report reductions in emotional distress and improvements in emotional regulation among cancer survivors.

Mindfulness practices may assist individuals in developing acceptance toward illness-related experiences while reducing maladaptive rumination and emotional reactivity. These psychological benefits are particularly relevant for individuals coping with uncertainty regarding treatment outcomes, recurrence, and survivorship challenges.

Quality of Life and Coping

Mindfulness-based interventions have also demonstrated beneficial effects on quality of life and coping abilities. Studies examining mindfulness-based stress reduction programs among breast cancer survivors reported improvements in psychological well-being, adaptive coping, and emotional resilience. Meta-analytic findings further indicate improvements in positive psychological functioning and sustained benefits during follow-up assessments.

Mindfulness practices encourage individuals to engage with difficult emotions and physical symptoms in a more adaptive and accepting manner. This process may contribute to enhanced coping self-efficacy and improved adjustment throughout the cancer trajectory.

Sleep, Fatigue, and Cognitive Functioning

Cancer patients frequently experience persistent fatigue, sleep disturbances, and cognitive difficulties commonly described as “chemo brain.” Research findings indicate that mindfulness-based interventions may improve subjective sleep quality and reduce cancer-related fatigue. Improvements in attentional regulation and subjective cognitive functioning have also been reported across several systematic reviews.

Although findings related to objective cognitive functioning remain less consistent, mindfulness practices appear to positively influence patients’ perceptions of cognitive control and daily functioning.

Mechanisms Underlying Mindfulness-Based Interventions

Several theoretical explanations have been proposed to explain the effectiveness of mindfulness-based interventions in oncology settings. Psychological mechanisms may include enhanced emotion regulation, distress tolerance, attentional control, and coping flexibility. Mindfulness may reduce automatic cognitive reactivity and facilitate greater emotional acceptance.

In addition to psychological processes, some studies suggest potential physiological mechanisms related to stress regulation, including cortisol modulation and autonomic nervous system functioning. However, additional research is required to clarify these biological pathways.

Limitations of Existing Research

Despite encouraging findings, the current evidence base demonstrates several methodological limitations. Considerable heterogeneity exists across intervention formats, delivery methods, cancer populations, and outcome measures. Many studies rely heavily on self-report assessments, which may introduce response bias.

Furthermore, several studies involve relatively small sample sizes and limited follow-up periods, making it difficult to determine the long-term sustainability of intervention effects. Future research should therefore prioritize large-scale randomized controlled trials using standardized intervention protocols and extended follow-up assessments.

Clinical Implications

The findings of this review suggest that mindfulness-based interventions may represent valuable complementary approaches within supportive oncology care. Incorporating

mindfulness-based programs into psycho-oncology services may provide cancer patients and survivors with practical strategies for managing psychological distress, emotional difficulties, and treatment-related symptoms.

The growing availability of online and digital mindfulness interventions may further improve accessibility for individuals unable to participate in traditional in-person programs.

Conclusion

Mindfulness-based interventions demonstrate considerable promise in improving psychological well-being among individuals diagnosed with cancer. Existing evidence indicates that these interventions contribute to reductions in anxiety, depression, psychological distress, sleep disturbances, and fatigue while enhancing coping abilities and quality of life. Although methodological limitations remain, the overall literature supports the integration of mindfulness-based approaches within psycho-oncology care. Further rigorous research is required to establish standardized treatment protocols and determine long-term clinical effectiveness.

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