



## Integration Mindfulness-Based Interventions into Cognitive Behavioral Therapy for Anxiety Disorders: Evidence and Implementation Challenges

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### Abstract

Mindfulness-based interventions (MBIs) have gained recognition as effective adjuncts to traditional Cognitive Behavioral Therapy (CBT) for treating anxiety disorders. This paper reviews current evidence on integrating MBIs with CBT, highlighting theoretical underpinnings, empirical findings, and implementation challenges. CBT traditionally focuses on modifying maladaptive thoughts and behaviors associated with anxiety. In contrast, MBIs emphasize present-moment awareness, acceptance of emotions, and non-judgmental observation. Combining these approaches aims to enhance treatment outcomes by addressing both cognitive distortions and emotional reactivity. Empirical evidence supports the efficacy of MBIs in reducing anxiety symptoms, enhancing emotion regulation, and improving overall well-being. Meta-analytic reviews indicate moderate to large effect sizes for MBIs in treating various anxiety disorders, including generalized anxiety disorder, social anxiety disorder, and panic disorder. The OLS regression analysis revealed that participants receiving traditional CBT alone experience a statistically significant greater reduction in anxiety symptoms compared to those receiving integrated MBIs with CBT. Age emerged as a significant factor affecting treatment outcomes, while gender did not show a significant influence. These findings highlight the importance of personalized treatment approaches and further research to refine integration strategies for optimizing therapeutic outcomes in anxiety disorder management. Despite promising outcomes, integrating MBIs into CBT presents several challenges. These include clinician training requirements, fidelity to treatment protocols, and patient adherence to mindfulness practices. Cultural adaptation and the need for personalized treatment plans further complicate implementation. In conclusion, while evidence supports the benefits of integrating MBIs into CBT for anxiety disorders, successful implementation requires addressing these challenges systematically.

**Keywords** *Mindfulness-based Interventions; Cognitive Behavioral Therapy; Anxiety Disorders; Treatment Outcomes; Implementation Challenges*

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## Introduction

Anxiety disorders represent a significant mental health concern globally, with a substantial impact on individual well-being and societal functioning. Among the various therapeutic modalities, Cognitive Behavioral Therapy (CBT) stands out as a cornerstone in the treatment of anxiety disorders due to its well-established efficacy (Nice, 2022). However, despite its effectiveness, a considerable number of individuals continue to experience residual symptoms or relapse following CBT treatment.

In recent years, there has been a growing interest in exploring adjunctive interventions to augment the outcomes of traditional CBT approaches for anxiety disorders. One such adjunctive approach is the integration of Mindfulness-Based Interventions (MBIs) into CBT protocols. Mindfulness practices, rooted in Eastern contemplative traditions, involve cultivating present-moment awareness and acceptance of one's experiences without judgment (McCartney et al., 2021).

The rationale for integrating mindfulness into CBT for anxiety lies in the potential synergistic effects of these two therapeutic modalities. While CBT primarily targets cognitive distortions and maladaptive behaviors, mindfulness techniques offer a complementary approach by promoting non-reactive awareness and acceptance of internal experiences, including anxiety-related thoughts and emotions (Zhang & Guo 2022). By combining these approaches, therapists aim to address both the cognitive-behavioral and experiential aspects of anxiety disorders more comprehensively.

Emerging empirical evidence suggests that integrating MBIs into CBT holds promise for enhancing treatment outcomes in anxiety disorders. Preliminary studies have demonstrated reductions in anxiety symptoms, improvements in emotion regulation, and decreased risk of relapse among individuals receiving integrated interventions compared to those receiving traditional CBT alone (Tao et al., 2022).

Despite these promising findings, several challenges exist in the integration and implementation of mindfulness-based approaches within CBT frameworks. These challenges include adapting treatment protocols, ensuring therapist competence, addressing client resistance, and establishing culturally sensitive practices (Schroevers et al., 2016).

Given the potential benefits and challenges associated with integrating mindfulness into CBT for anxiety disorders, further research is warranted to elucidate the mechanisms underlying the efficacy of integrated interventions and to identify optimal strategies for their implementation in clinical settings. This study seeks to contribute to the existing literature by examining the evidence base for integrating MBIs into CBT for anxiety disorders and exploring the implementation challenges encountered by clinicians in real-world practice.

## Statement of the Problem

The ideal scenario envisions a seamless integration of mindfulness-based interventions (MBIs) into Cognitive Behavioral Therapy (CBT) for anxiety disorders, aiming to capitalize on their complementary strengths. By merging these approaches, the treatment framework could potentially enrich therapeutic outcomes, providing a more holistic and impactful pathway for individuals grappling with anxiety.

However, achieving this integration poses significant challenges on multiple fronts. Logistically, there are substantial hurdles such as the comprehensive training of clinicians in MBIs, the adaptation of existing CBT protocols to accommodate mindfulness practices, and the critical need to ensure fidelity to both CBT and mindfulness principles throughout treatment delivery. Beyond logistical concerns, theoretical and clinical challenges persist in determining the most effective methodologies for harmonizing these approaches while preserving their distinct therapeutic mechanisms and advantages.

If these implementation challenges are not effectively addressed, the risk looms that MBIs may not be fully assimilated into routine CBT practices for anxiety disorders. This scenario could result in inconsistent treatment outcomes and missed opportunities to optimize therapeutic effectiveness. Consequently, it is imperative to tackle these obstacles head-on to advance the seamless integration of MBIs into standard CBT protocols. By doing so, clinicians can harness and maximize the combined therapeutic benefits of mindfulness and CBT, thereby enhancing treatment options and outcomes for individuals suffering from anxiety disorders.

### **Objectives of the Study**

The main objective of the study is to examine integration mindfulness-based interventions into cognitive behavioral therapy for anxiety disorders: evidence and implementation challenges. The specific objectives of the study are to:

- i. Evaluate the effectiveness of integrating Mindfulness-Based Interventions (MBIs) into Cognitive Behavioral Therapy (CBT) for anxiety disorders.
- ii. Investigate the implementation challenges faced by clinicians in integrating MBIs into CBT protocols for anxiety disorders.
- iii. Develop evidence-based recommendations to optimize the integration of MBIs into CBT for anxiety disorders.

### **Research Questions**

The study provided answers to the research question:

- i. How does integrating Mindfulness-Based Interventions (MBIs) into Cognitive Behavioral Therapy (CBT) affect the effectiveness of treatment for anxiety disorders compared to traditional CBT alone?
- ii. What are the primary implementation challenges clinicians encounter when integrating MBIs into CBT protocols for treating anxiety disorders?
- iii. What evidence-based recommendations can be developed to optimize the integration of MBIs into CBT for anxiety disorders based on existing research and clinical experience?

### **Statement of Hypotheses**

The following hypotheses in null form will guide the study:

- i. There is no significant difference in the reduction of anxiety symptoms between individuals receiving integrated Mindfulness-Based Interventions (MBIs) with Cognitive Behavioral Therapy (CBT) and those receiving traditional CBT alone for anxiety disorders.
- ii. There is no significant association between the implementation challenges faced by clinicians when integrating MBIs into CBT protocols for anxiety disorders and treatment outcomes.
- iii. There is no significant effect of implementing evidence-based recommendations on the integration of MBIs into CBT for anxiety disorders in improving treatment delivery and outcomes.

### Significance of the Study

The significance of integrating mindfulness-based interventions into cognitive behavioral therapy (CBT) for anxiety disorders lies in its potential to benefit various individuals and institutions. The following are the benefits of the study to different stakeholders:

- i. **Individuals Suffering from Anxiety Disorders:** Mindfulness techniques can enhance CBT by offering individuals additional tools to manage anxiety symptoms effectively. Integrating mindfulness can also help individuals develop better coping mechanisms, such as reducing reactivity to stressors and increasing emotional regulation. Moreover, learning mindfulness can lead to sustained improvements in mental health and overall well-being beyond the therapy sessions.
- ii. **Mental Health Professionals:** Integrating mindfulness practices enriches the therapist's toolkit, allowing for more tailored and effective treatment plans for clients with anxiety disorders. It provides alternative strategies that can be adapted to suit the individual needs and preferences of clients. Combining mindfulness with CBT can also lead to better treatment outcomes, such as reduced symptoms, improved client engagement, and lower dropout rates.
- iii. **Research Community:** Researching the integration of mindfulness into CBT contributes to the growing body of evidence-based practices in mental health treatment. Demonstrating the efficacy of combining mindfulness and CBT can encourage further research and adoption of integrative approaches in clinical settings.
- iv. **Healthcare Institutions and Policy Makers:** Effective treatments reduce the economic burden associated with anxiety disorders by potentially lowering healthcare costs related to long-term management and hospitalization. Integrating mindfulness into CBT can contribute to public health initiatives aimed at improving mental health outcomes on a broader scale.
- v. **Society at Large:** Effective treatments improve societal attitudes towards mental health issues like anxiety disorders, reducing stigma and promoting early intervention. Better management of anxiety can enhance individuals' productivity at work and improve overall quality of life, benefiting society economically and socially.

### Definition of Terms

- i. **Mindfulness-Based Interventions (MBIs):** This refers to structured interventions or programs that aim to cultivate mindfulness skills, such as mindfulness meditation, mindful breathing exercises, and body scan techniques.
- ii. **Cognitive Behavioral Therapy (CBT):** This is a structured psychotherapeutic approach that addresses dysfunctional emotions, behaviors, and thoughts.
- iii. **Anxiety Disorders:** This refers to a group of mental health disorders characterized by excessive fear, worry, and related behavioral disturbances.
- iv. **Integration of MBIs into CBT:** It refers to the process of combining mindfulness-based techniques with traditional CBT strategies within a therapeutic framework.
- v. **Therapeutic Outcomes:** This refers to changes in symptoms, behaviors, or functioning resulting from the integrated intervention.
- vi. **Clinician Competence in MBIs:** This refers to the proficiency and skill of clinicians in delivering mindfulness-based interventions.
- vii. **Patient Adherence and Satisfaction:** This refers to the extent to which patients engage in and adhere to the integrated intervention, as well as their satisfaction with the treatment received.

## Review of Related Literature

### Conceptual Review

#### Concept of Integrating Mindfulness into CBT for Anxiety Disorders

The integration of Mindfulness-Based Interventions (MBIs) into Cognitive Behavioral Therapy (CBT) represents a promising approach to enhancing treatment outcomes for anxiety disorders. CBT, founded on the premise of modifying cognitive distortions and maladaptive behaviors has long been recognized as effective in reducing anxiety symptoms (Hofmann et al., 2012). However, the addition of mindfulness techniques aims to further address emotional reactivity and increase present-moment awareness (Hoge et al., 2015).

Mindfulness, rooted in Buddhist traditions, emphasizes non-judgmental awareness of one's thoughts, emotions, and bodily sensations (Roemer et al., 2008). Practices such as meditation and body scanning foster a mindful state, which has been shown to reduce anxiety by promoting acceptance and decreasing emotional avoidance (Segal et al., 2018).

The synergy between CBT and MBIs lies in their complementary mechanisms. CBT targets cognitive distortions through techniques like cognitive restructuring and exposure therapy (Hofmann et al., 2012), while MBIs enhance emotional regulation and acceptance of internal experiences (Keng et al., 2011). By integrating mindfulness practices into CBT, therapists can offer a comprehensive approach that not only challenges anxious thoughts and behaviors but also cultivates resilience and adaptive coping strategies (Roemer et al., 2008).

Implementing this integrated approach faces challenges such as therapist training and adherence to treatment protocols (Hoge et al., 2015). Nevertheless, empirical evidence supports the effectiveness of combining CBT with mindfulness for anxiety disorders, highlighting its potential to improve therapeutic outcomes and enhance quality of life for individuals affected by anxiety (Hofmann et al., 2010; Keng et al., 2011).

#### Theoretical Framework for Integrating MBIs into CBT for Anxiety Disorders

The theoretical framework for integrating Mindfulness-Based Interventions (MBIs) into Cognitive Behavioral Therapy (CBT) for anxiety disorders draws on principles from both mindfulness and CBT to create a synergistic therapeutic approach. Mindfulness techniques, as seen in Mindfulness-Based Stress Reduction (MBSR) and Mindfulness-Based Cognitive Therapy (MBCT), emphasize cultivating present-moment awareness and non-judgmental observation of thoughts and emotions. These practices aim to reduce emotional reactivity and enhance emotional regulation skills, which are crucial for managing anxiety symptoms effectively. By fostering attentional control and cognitive flexibility, mindfulness helps individuals interrupt rumination and worry cycles, promoting a more adaptive response to stressors (Sipe & Eisendrath, 2012).

Integrating mindfulness with CBT techniques enhances the effectiveness of traditional CBT protocols. For instance, in behavioral experiments, mindfulness practices enable individuals to observe their internal experiences without reacting impulsively, thereby facilitating deeper insights into their thought patterns and emotional responses during anxiety-provoking situations. This approach supports the process of cognitive restructuring by challenging maladaptive beliefs and behaviors in a mindful, non-reactive manner (Ghahari et al., 2020).

Moreover, mindfulness complements exposure-based techniques by helping individuals tolerate distressing emotions and sensations that arise during exposure exercises. By cultivating acceptance and non-judgmental awareness, mindfulness allows individuals to approach anxiety-provoking stimuli with greater resilience and reduced avoidance behaviors. This integration not only enhances the efficacy of exposure therapy but also promotes habituation to anxiety triggers over time (Hofmann et al., 2010).

From a neurobiological perspective, mindfulness practices have been shown to induce structural and functional changes in brain regions implicated in emotion regulation, such as the prefrontal cortex and amygdala. These

changes facilitate top-down regulation of emotional responses and contribute to symptom reduction in anxiety disorders (Eisendrath, 2016).

### **Empirical Evidence on the Effectiveness of Integrated MBIs and CBT for Anxiety Disorders**

Empirical evidence supporting the effectiveness of integrating Mindfulness-Based Interventions (MBIs) into Cognitive Behavioral Therapy (CBT) for anxiety disorders highlights several key findings from research studies conducted over the past few decades. Numerous randomized controlled trials (RCTs) and meta-analyses have explored the synergistic benefits of combining mindfulness techniques with traditional CBT approaches, yielding promising results across various anxiety disorders, including generalized anxiety disorder (GAD), social anxiety disorder (SAD), panic disorder (PD) and post-traumatic stress disorder (PTSD).

Studies consistently demonstrate that integrated MBIs and CBT contribute to significant reductions in anxiety symptoms compared to traditional CBT alone or waitlist controls. For instance, research by Hofmann et al. (2010) and Arch et al. (2016) have shown that mindfulness-enhanced CBT leads to greater improvements in anxiety symptoms, enhanced emotional regulation, and reduced relapse rates post-treatment.

Furthermore, integrated approaches capitalize on mindfulness practices to target specific mechanisms underlying anxiety disorders. Mindfulness interventions promote awareness of bodily sensations, thoughts, and emotions without judgment, facilitating a more adaptive response to stressors. This aspect is particularly beneficial in treating anxiety, where heightened reactivity to internal and external triggers often exacerbates symptoms (Xuan & Qiao, 2020)

Neuroimaging studies also provide empirical support by demonstrating neuroplastic changes associated with mindfulness practice. For instance, mindfulness training has been linked to increased activity in the prefrontal cortex (PFC), responsible for executive functions and emotion regulation, and reduced amygdala activation, which is implicated in fear processing and anxiety responses. These neural changes contribute to enhanced cognitive control over anxious thoughts and emotions (Chan & Chan, 2022).

Moreover, longitudinal studies suggest that integrating MBIs into CBT protocols may confer enduring benefits beyond symptom reduction. Participants often report improved quality of life, increased resilience to stress, and better overall psychological well-being following treatment.

### **Clinical Barriers to Integrating MBIs into CBT Protocols**

Integrating Mindfulness-Based Interventions (MBIs) into Cognitive Behavioral Therapy (CBT) protocols for treating anxiety disorders faces several clinical barriers that complicate implementation and effectiveness. These barriers arise from both logistical and theoretical challenges within clinical practice (Wagner & Cáceres-Melillo, 2023).

Logistically, a primary barrier is the need for specialized training and competence among clinicians. Effective delivery of MBIs requires clinicians to possess a thorough understanding of mindfulness principles and techniques, which may differ significantly from traditional CBT methods. Training programs are essential but often time-consuming and resource-intensive, posing constraints for busy clinical settings where clinicians may already be managing diverse caseloads.

Additionally, adapting treatment protocols to incorporate MBIs while maintaining fidelity to both mindfulness and CBT principles presents another challenge. CBT traditionally emphasizes structured, goal-oriented interventions that target cognitive distortions and behavioral patterns. Integrating mindfulness practices, which emphasize non-judgmental awareness and acceptance of present-moment experiences, requires careful modification of therapeutic techniques to ensure they complement rather than contradict each other.

Theoretical barriers also complicate integration efforts. Clinicians may encounter conceptual challenges in harmonizing the underlying mechanisms of MBIs and CBT. While CBT focuses on modifying cognitive processes and

behaviors, MBIs encourage acceptance and non-reactivity to thoughts and emotions. Balancing these approaches to create a cohesive treatment framework can be complex, requiring a nuanced understanding of how each component contributes to therapeutic outcomes for anxiety disorders.

Hence, organizational factors within clinical settings, such as limited resources, lack of administrative support for training and resistance to change among staff, further impede the integration of MBIs into routine practice. These factors contribute to inconsistent implementation fidelity and may hinder clinicians' ability to effectively apply integrated approaches in real-world settings.

### **Training and Competence Challenges for Clinicians in Integrating MBIs with CBT**

Integrating Mindfulness-Based Interventions (MBIs) with Cognitive Behavioral Therapy (CBT) poses significant challenges related to training and competence for clinicians, impacting the effective delivery and integration of these therapeutic approaches. These challenges span both logistical and clinical dimensions within clinical practice (Chiesa & Malinowski, 2011).

Firstly, clinicians require specialized training to effectively incorporate MBIs into their existing CBT practice. This training typically involves learning mindfulness principles, techniques, and their application in therapeutic settings. Unlike traditional CBT, which focuses on structured interventions targeting cognitive restructuring and behavioral change, MBIs emphasize present-moment awareness, non-judgmental observation of thoughts and emotions, and cultivating mindfulness skills through practices like meditation and mindful breathing. This shift in therapeutic approach necessitates comprehensive training programs that not only introduce mindfulness concepts but also teach clinicians how to integrate them synergistically with CBT strategies (Hoge et al., 2013).

Moreover, achieving competence in delivering integrated MBIs and CBT requires clinicians to develop proficiency in adapting treatment protocols. This adaptation involves modifying traditional CBT techniques to incorporate mindfulness practices effectively while maintaining fidelity to both therapeutic approaches (McCartney et al., 2021). Clinicians must navigate the balance between directive, goal-oriented interventions of CBT and the more open, accepting stance of MBIs, ensuring these components complement rather than conflict with each other in treatment delivery.

Clinical competence also hinges on clinicians' ability to navigate the theoretical underpinnings and empirical evidence supporting MBIs and CBT. Understanding how mindfulness practices enhance emotional regulation, reduce anxiety symptoms, and promote resilience is crucial. Equally important is integrating this understanding into clinical decision-making and treatment planning for individual clients, which requires ongoing professional development and supervision (Tang et al., 2015).

Beyond individual competence, organizational support plays a pivotal role. Clinical settings must allocate resources for specialized training, supervision, and ongoing professional development opportunities tailored to integrating MBIs with CBT. However, organizational barriers such as limited funding, time constraints, and resistance to change among staff can impede clinicians' ability to acquire and apply these integrated skills consistently.

### **Methodology**

This study employs a mixed-methods design, integrating both qualitative and quantitative approaches. The quantitative aspect involves a randomized controlled trial (RCT) to assess the effectiveness of integrating mindfulness-based interventions (MBIs) into cognitive behavioral therapy (CBT) for anxiety disorders. Qualitative methods include semi-structured interviews to explore participants' experiences and perceptions of the integrated therapy.

The target population consists of adults aged 18-65 diagnosed with anxiety disorders, including generalized anxiety disorder, social anxiety disorder, and panic disorder. Participants are recruited from the outpatient clinics based on diagnostic criteria and willingness to participate in the study.

A stratified random sampling technique is employed to ensure diversity in the sample. Participants are stratified based on the type and severity of anxiety disorder. Randomization into intervention (CBT + MBIs) and control (CBT alone) groups is conducted within each stratum to minimize bias and ensure comparability between groups. The study therefore, utilized OLS regression to analyze the qualitative data

## Results and Discussions

**Table 1: OLS Analysis of Hypotheses**

Variable	Coefficient	Standard Error (SE)	t-value	p-value	Brief Elucidation
Intercept	2.50	0.30	8.33	0.001	The intercept represents the estimated reduction in anxiety symptoms for the Traditional CBT group when all other variables are held constant.
Treatment Type	-0.80	0.40	-2.00	0.045	The coefficient for Treatment Type indicates the estimated difference in reduction of anxiety symptoms between the Integrated MBIs group and the Traditional CBT group.
Age	-0.05	0.02	-2.50	0.012	Each year increase in age is associated with a decrease in anxiety symptom reduction by 0.05 units, holding other variables constant.
Gender (Male)	0.20	0.15	1.33	0.189	Being male is associated with a slight increase in anxiety symptom reduction by 0.20 units, although not statistically significant at $p < 0.05$ .

Sources: SPSS Output of Field Survey, 2024.

### Interpretation

**Intercept:** The intercept (2.50) represents the estimated reduction in anxiety symptoms for the Traditional CBT group when all other variables (Treatment Type, Age, Gender, baseline anxiety severity, etc.) are held constant. The intercept is statistically significant ( $p < 0.001$ ), indicating that the Traditional CBT group experiences a significant reduction in anxiety symptoms.

**Treatment Type (Integrated MBIs vs. Traditional CBT):** The coefficient for Treatment Type (-0.80) indicates that individuals receiving integrated MBIs with CBT have, on average, a reduction in anxiety symptoms that is 0.80 units less than those receiving traditional CBT alone.

The standard error (0.40) shows the precision of the coefficient estimate.

The t-value (-2.00) is calculated as coefficient divided by standard error and it shows the significance of the coefficient estimate.

The p-value (0.045) is less than 0.05, suggesting that the difference in anxiety symptom reduction between the Integrated MBIs group and the Traditional CBT group is statistically significant.

### Control Variables (Age and Gender):

**Age (coefficient = -0.05):** Each year increase in age is associated with a decrease in anxiety symptom reduction by 0.05 units, holding other variables constant.

**Gender (Male) (coefficient = 0.20):** Being male is associated with a slight increase in anxiety symptom reduction by 0.20 units, although this effect is not statistically significant at  $p < 0.05$ .



### Summary of Findings

This study aimed to compare the effectiveness of integrating Mindfulness-Based Interventions (MBIs) with Cognitive Behavioral Therapy (CBT) versus traditional CBT alone in reducing anxiety symptoms among individuals with anxiety disorders. It was found that individuals receiving integrated MBIs with CBT showed a statistically significant reduction in anxiety symptoms that was 0.80 units less compared to those receiving traditional CBT alone ( $\beta = -0.80$ ,  $p = 0.045$ ). This suggests that traditional CBT alone may be more effective in alleviating anxiety symptoms than the combined approach with MBIs. Age was identified as a significant factor, with each year increase associated with a decrease in anxiety symptom improvement by 0.05 units ( $\beta = -0.05$ ,  $p = 0.012$ ), when controlling for other variables. Gender (Male) showed a non-significant trend towards increasing anxiety symptom reduction by 0.20 units ( $\beta = 0.20$ ,  $p = 0.189$ ). The intercept ( $\beta = 2.50$ ,  $p < 0.001$ ) represents the baseline reduction in anxiety symptoms for the reference group (Traditional CBT) with all other factors held constant. Therefore, these findings underscore the nuanced differences in treatment outcomes between integrated MBIs with CBT and traditional CBT alone, highlighting the need for further research and clinical consideration in optimizing treatment approaches for anxiety disorders.

### Conclusion

The integration of Mindfulness-Based Interventions (MBIs) into Cognitive Behavioral Therapy (CBT) for anxiety disorders represents a significant advancement in psychotherapeutic practice, supported by robust evidence and evolving best practices. This study analysis indicates that individuals receiving traditional CBT alone experienced a statistically significant greater reduction in anxiety symptoms compared to those receiving integrated MBIs with CBT. Specifically, the integrated approach showed a reduction in anxiety symptoms that was 0.80 units less on average ( $\beta = -0.80$ ,  $p = 0.045$ ). Age emerged as a significant factor, with older participants experiencing a slightly lesser improvement in anxiety symptoms over time ( $\beta = -0.05$ ,  $p = 0.012$ ), while gender (Male) did not significantly influence outcomes ( $\beta = 0.20$ ,  $p = 0.189$ ).

These findings suggest that while MBIs offer potential benefits in augmenting traditional CBT, such integration may not surpass the efficacy of traditional CBT alone in anxiety symptom reduction. The study underscores the complexity of treatment outcomes influenced by various factors, including treatment modality and demographic characteristics. Tailoring treatment plans to individual patient needs is paramount in integrating MBIs into CBT. This personalized approach ensures that interventions resonate with the patient's preferences, readiness, and specific challenges related to anxiety. It involves collaboratively setting realistic goals, monitoring progress, and adjusting interventions as needed based on ongoing feedback and assessment.

However, the successful implementation of integrated treatments faces several challenges. Therapist training is critical to equip clinicians with the necessary skills to effectively integrate MBIs into their existing CBT practice. This includes specialized training in mindfulness techniques, understanding the principles of MBIs, and proficiency in adapting these practices within the context of CBT sessions. Patient adherence to mindfulness practices outside of therapy sessions presents another challenge. Strategies to enhance adherence include providing clear instructions, reinforcing mindfulness skills during therapy sessions, and utilizing technology (such as mobile apps) to support daily practice and engagement.

Furthermore, measuring the outcomes of integrated MBIs and CBT requires the development and utilization of standardized assessment tools that capture both cognitive-behavioral outcomes (e.g., symptom reduction, behavioral changes) and mindfulness-related improvements (e.g., increased awareness, emotional regulation). Longitudinal assessment is crucial to evaluate the sustainability of treatment gains and identify areas for further intervention or adjustment. Clinicians should consider these nuances when selecting and implementing treatment approaches, aiming to maximize therapeutic effectiveness and improve patient outcomes in clinical practice.

## Recommendation

Based on the findings of this study, the following recommendations are proposed:

- i. Clinicians should consider individualized treatment plans based on patient characteristics, including age and specific anxiety symptoms. While integrating Mindfulness-Based Interventions (MBIs) with Cognitive Behavioral Therapy (CBT) shows promise, the study suggests that traditional CBT alone may be more effective for some individuals. Therefore, treatment selection should be personalized to optimize therapeutic outcomes.
- ii. Future studies should explore additional variables that may impact treatment effectiveness, such as duration of therapy, severity of anxiety, and patient adherence to interventions. Longitudinal studies could provide valuable insights into the sustained effects of integrated MBIs with CBT versus traditional CBT alone over time.
- iii. Given the integration challenges highlighted in the study, training programs should emphasize competencies in both MBIs and CBT. Providing ongoing supervision and support can enhance clinician confidence and proficiency in delivering integrated treatments, ultimately improving patient care and treatment adherence.

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