

The Effectiveness of Mindfulness-Based Cognitive Therapy for Major Depressive Disorder and Relapse Prevention

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Abstract. Due to the prevalence and severity of Major Depressive Disorder (MDD), it is essential to examine the effectiveness of Mindfulness-Based Cognitive Therapy (MBCT) when treating and preventing the recurrence of MDD. This paper evaluated recent research in this area. First, this article described the importance of research on MDD, which has led to considering MBCT techniques for treating MDD. In addition, this article presented previous literature which explored the symptoms and causes of MDD, as well as the mechanisms and theories of mindfulness training and Cognitive Behavioral Therapy (CBT). Moreover, the paper reviewed recent findings in this area and compared the overall effectiveness of MBCT, Active Control Condition (ACC), and medical therapy when treating MDD. Plus, this paper identified the core components of MBCT, including self-compassion cultivation, meditation training, attentional bias improvement, and meta-cognitive skill enhancement. Finally, this paper also proposed that future research should involve large and diverse samples, longer-term studies, subgroup analyses, and qualitative research to understand MBCT's effectiveness and applications more comprehensively.

Keywords: major depressive disorder; relapse prevention; mindfulness-based cognitive therapy; self-compassion; metacognitive skills.

1. Introduction

Major depressive disorder (MDD) has aroused widespread concern in society because it is a major contributor to disability worldwide [1]. MDD is a debilitating mental illness including symptoms of chronic negative affect and lack of motivation, leading to extensive impairments in functioning. Symptoms typically include chronic terrible affect, rumination, sleep disturbances, loss of appetite, improved fatigue, and dwindled motivation [1]. The etiology of MDD is complex and might contain more than one biological, genetic, mental, and social element. Research supports the efficacy of MBCT in treating MDD. Mindfulness-Based Cognitive Therapy (MBCT) is a scientifically supported treatment that integrates cognitive treatment, mindfulness training, and a major depressive disorder relapse prevention strategy [2]. Mindfulness training is a structured approach to cultivating mindfulness, which involves actively focusing on the present without judgment. It typically includes mindfulness meditation techniques to enhance psychological well-being, reduce stress, and improve overall mental health [2]. Cognitive treatment follows the principles of Cognitive Behavioral Therapy (CBT) and the psychotherapeutic approach targeting problematic thought patterns and beliefs to reduce emotional suffering and improve behavior [3].

MBCT has an impact on the treatment system of MDD. Firstly, MBCT saves costs by reducing medication expenses. Secondly, it offers mindfulness training that differs from traditional treatment, providing patients with a portable skill to manage their condition independently. Specifically, mindfulness training can be learned through practice and used anytime, anywhere for patients. During this process, the patients could learn to understand how their thoughts and feelings affect their behavior and analyze their ability to deal with destructive emotions. It not only reduces anxiety related to their condition but also reduces the need for ongoing or intensive mental health interventions. Ultimately, MBCT offers skills that individuals can continue to use throughout their lives, resulting

in sustained mental well-being and reducing the need for ongoing or intensive mental health interventions.

Relapse prevention is a therapeutic and cognitive-behavioral approach designed to pinpoint, manage, and reduce the likelihood of problematic behavior, disease, or disorder recurring or returning. It entails creating coping mechanisms, identifying triggers, and putting plans in place to sustain advancement and avoid setbacks [4]. The three selected articles discuss MDD, MAT, and CBT concepts and related theories. Different from regular disappointment and grief, MDD has distance-attaining impacts on individuals' functioning and may require remedy. The Monitor and Acceptance Theory (MAT) is a theoretical account that explains the effectiveness of mindfulness training on cognition, affect, stress, and physical health outcomes. Mindfulness enhances cognitive functioning by improving attention monitoring skills and acceptance, two fundamental components. Cognitive theories of melancholy propose that thoughts and data processing styles mediate the pathogenesis of MDD. Beck's cognitive triad outlines a lousy view of oneself, one's surroundings, and the future due to a wrong belief of the self and one's experiences. The hopelessness idea of depression, proposed by Abramson, Metalsky, and Alloy, makes a specialty of the tendency to characteristic poor lifestyles occasions to strong and international reasons, making the character feel hopeless and developing depressive symptoms [5]. CBT for depression empowers individuals by teaching them new skills to manage their depressive symptoms, including cognitive restructuring to correct negative thought patterns, engagement in positive activities to combat social withdrawal, and relaxation techniques to reduce anxiety. Research supports the effectiveness of CBT in reducing relapse rates compared to medication treatment, making it a primary-line therapy for depression recommended by healthcare guidelines [3].

In summary, MDD is characterized by persistent unhappiness with multiple psycho-physiological changes and has various causes and mechanisms, including genetics, monoamine-deficiency hypothesis, stress, hypothalamic-pituitary-adrenal axis, and growth factors [2]. Cognitive therapy for depression links to cognitive theories of depression and hopelessness theory of depression. Despite the effectiveness of the theories above and treatments for MDD, less interest has been paid to relapse prevention. Modern research on MDD is often targeted at acute remedies. However, there is a need to explore relapse prevention and consider factors of emotion regulation, healing alliance, and self-efficacy. It is also essential to examine the long-term consequences of treatments for MDD, with similar exploration into potential upkeep consequences as well as consequences of the treatment cessation. Finally, extra interest wishes to be paid to know the effect of MDD on people from unique backgrounds and across cultures. This article mainly reviewed the overall effectiveness of MBCT for major depressive disorder and essential components of MBCT and their Effectiveness for major depressive disorder.

2. The Overall Effectiveness of MBCT for MDD

Generally, the MBCT intervention is around eight weeks. It mainly helps patients with MDD improve positive beliefs, reduce their stress, and accumulate sub-skills to relieve feelings and emotions. MBCT was more effective than other therapies for depression, such as the Active Control Condition (ACC). ACC is a control group derived from the Health Enhancement Programme and serves as an active control for interventions based on mindfulness. The intervention encompassed many components, such as exercise, music therapy, dietary modifications, and functional mobility, with the exception of mindfulness [2]. In a randomized 8-week experiment, Shallcross et al. conducted a comparative analysis of MBCT and Antidepressant Continuation Cognitive therapy (ACC) in order to assess their efficacy in preventing the recurrence of depression. The study focused on individuals remitted from MDD but still had some symptoms. MBCT and Acceptance and Commitment Therapy (ACT) have demonstrated efficacy in ameliorating mental health conditions, including anxiety, psychological discomfort, physical health problems, and inflammation. Participants' depression could be dramatically alleviated by MBCT. The researchers also discovered that MBCT and ACC treated depression recurrence equally well. MBCT and ACC outcomes in depression recurrence rate or time

are comparable. Nevertheless, MBCT was most effective in individuals at the highest risk of relapse and for individuals with childhood trauma. In conclusion, this study demonstrates that mindfulness is a crucial factor in MBCT prevention by enhancing the ability of people with MDD to address emotionally salient experiences with facilitators and groups. MBCT was more effective in reducing symptoms compared to ACC, although they did not differ in preventing relapse. In addition, this study suggests that comparing psychotherapeutic interventions with active control conditions is essential for analyzing intervention-specific skills [2].

However, the effectiveness of MBCT and ACC on major depressive disorder are similar in the long term. A study by Shallcross et al. tested a previous study about 12 months. In a previous study, participants with major depressive disorder were randomly treated with MBCT or ACC interventions for eight weeks [2]. The previous study compared MBCT to the ACC and evaluated depression relapse prevention, depressive symptoms, and life satisfaction after 26 months. No differences were seen between groups for any outcomes 6, 12, and 26 months after the intervention. MBCT and ACC outcomes in areas of depression, life satisfaction, and relapse prevention were comparable at 26 months. Based on depression prevention trials, MBCT and ACC may be equally helpful in treating major depressive illness. The study by Shallcross et al. also recommends including a treatment-as-usual (TAU) control condition in future studies to establish this possibility and rule out time-related effects in 2018 [6].

Although MBCT is similar to ACC in treating MDD, it has many more benefits than medical therapy. Eisendrath and colleagues compared the different treatments between sertraline monotherapy and MBCT monotherapy in patients with acute MDD for eight weeks. Depression severity was further assessed using the self-report about depressive symptoms. The primary analysis shows that both groups improved comparably in the area of depression. A secondary analysis showed that the FBT group showed greater mean improvement than the sertraline group, based on self-reports of depression. Thus, due to its subjective benefit of improving self-efficacy abilities, 8-week MBCT monotherapy may be more successful than antidepressants in treating major depressive disorder. The data also support MBCT efficacy. MBCT has demonstrated efficacy as an intervention modality in individuals diagnosed with MDD. This therapeutic approach has been found to facilitate a reduction or cessation of antidepressant medication usage while mitigating the likelihood of relapse compared to conventional clinical interventions [7].

MBCT is effective in improving rumination and dysfunctional attitudes in MDD patients. Jermann et al. compared cognitive functioning in remission-treated recurrent depressive disorder patients to acutely depressed patients, controls, and mindfulness-based cognitive treatment trial participants. The secondary study objective was to assess cognitive performance in MBCT trial participants with depression remission. The study compared cognitive processes (e.g., autobiographical memory, transferability, distorted attitudes, mindfulness, and ruminating patterns) using a cross-sectional approach; of 36 patients in remission of depression, 20 had acute depression). Findings showed that patients in remission performed similarly to control participants on autobiographical memory, ability to divert, and awareness of mindful attention, Rumination, and dysfunctional attitudes decreased dramatically. The MBCT group had considerably decreased dysfunctional attitudes for nine months after the intervention. The results imply that the MBCT may help people identify dysfunctional attitudes early on and avoid depressive syndrome [8].

3. Essential Components of MBCT and Their Effectiveness for MDD

The previous articles [1, 6-8] demonstrated the effectiveness of MBCT, and the following articles [9-12] elaborated on the core elements of MBCT's effectiveness. First of all, MBCT alleviates symptoms of depression by improving self-compassion. In the study by Geurts et al., the effectiveness of MBCT for MDD patients presenting in real-world clinical practice was investigated. It was also assessed whether the MBCT allocation guideline recommendations for relapse and remission status in MDD. Participants underwent MBCT, and anxiety, depression, self-compassion, and mindfulness were

assessed. Clinical, sociodemographic, as well as MDD relapse/remission risk factors were predictive. The study's findings showed that MBCT adherence was as high as 94%. Socioeconomic factors (e.g., education and employment status) were strongly related to MDD symptoms, and patients with lower educational levels were more likely to be non-adherence. More importantly, the results suggest that MBCT is effective in patients with MDD in routine clinical practice, regardless of MDD relapse and remission status. Outcomes were less favorable for unemployed patients, with MBCT helping participants reduce worry and improve mindfulness skills and self-compassion, improvements that were associated with changes in depressive symptoms. Self-compassion, in particular, requires intentional awareness of people's unfavorable thoughts and feelings to approach them with equilibrium and composure, experientially open to the truth of the moment, without judgment, avoidance, or repression. Consequently, attending more MBCT classes positively impacted improvement in depressive symptoms since compassion towards oneself and mindful thinking were essential components in treatment [9].

de Klerk-Sluis and his colleagues did a study to find out what causes people with major depression disorder to relapse after starting MBCT. Two randomized controlled studies with individuals in remission from MDD and taking maintenance antidepressants for at least six months were used to collect empirical data. Mindfulness-based cognitive therapy was provided to all participants. Cognitive reactivity, contemplation, compassion towards oneself, and mindful thinking were assessed, and the association with later relapse was investigated using a self-report questionnaire. Findings showed that rumination is related to relapse, and higher cognitive reactivity and lower level of mindful thinking heightened the possibility of later relapse, while compassion towards oneself had limited preventive impact. In conjunction with previous research, self-compassion reduces depressive symptoms. However, the lack of association with relapse has led people to improve treatment planning decisions for individuals remitted from depressive symptoms [10].

Additionally, metacognitive skills are an important part of what makes MBCT effective. The main distinction between cognitive therapy and MBCT is the main objective and focus. A more comprehensive technique called cognitive therapy is used to treat a variety of psychiatric illnesses by changing thought and behavior patterns. In contrast, MBCT is a specialist intervention that combines cognitive therapy methods with mindfulness exercises in order to stop the recurrence of depression. While both methods encourage being aware of one's thoughts, MBCT emphasizes mindfulness as a means of preventing depression relapse. Farb and colleagues assessed treatment-specific process markers of eccentricity and dysfunctional attitudes, and they evaluated relapse rates among sad people who are no longer depressed and are getting Cognitive Therapy (CT) or MBCT. Participants were given an 8-week treatment period and then watched for two years, with relevant measures being taken once per three months. The questionnaire scale was also used in this study to see if the same prevention results were linked to different or similar treatment mechanisms. During the two-year follow-up, there was no difference between MBCT and CT in the risk of MDD relapse. Eccentricity increased significantly in both groups, with the CT group reporting a greater reduction in dysfunctional attitudes. In the MBCT and CT treatment groups, individuals with relapse showed less eccentricity compared to individuals without during the two-year period. This research confirmed that even though CT and MBCT are different approaches, both groups of participants developed similar metacognitive skills, which are higher-order cognitive talents that entail monitoring, managing, and regulating distressing thoughts and emotions. Therefore, the study shows that CT and MBCT are equally effective in helping people with major depressive disorder recover [11].

Finally, MBCT can alleviate depression by improving the attentional bias and emotional perception of MDD patients. An individual's attention is selectively drawn to emotionally significant or personally relevant stimuli while disregarding or undervaluing less emotionally charged items. This cognitive phenomenon is known as attentional bias. It may affect how people view and respond to their surroundings. Holas et al. conducted a study to determine whether MBCT could change the biased attention in MDD among currently depressed patients. Fifty-three participants diagnosed with current MDD participated in the test. Eye movements during the viewing task were recorded, and the

depression degree was measured before and after the intervention using slides with sad, joyful, angry, and neutral faces. The results confirmed previous hypotheses that MBCT participants had lower depression scores than controls and paid more attention to happy faces than sad faces. Results also revealed that attentional biases cause sadness. This study shows that mindfulness-based cognitive treatment can change emotional facial stimulus attention, which may also contribute to changes in attentional biases and translate into clinical improvement in patients with current depression [12].

4. Conclusion

This paper reviewed recent studies in the area of MBCT in depression. It showed that previous findings consistently support that MBCT is more effective than ACC and medical therapies in reducing depressive symptoms over a short time. Additionally, one of the benefits of MBCT is that it can improve rumination and dysfunctional attitudes. The core components of MBCT, which include cultivating self-compassion, meditation training, improving attentional bias, and improving metacognitive skills, can make the intervention work. However, there are still some limitations in previous research. Addressing the limitations of previous studies in the realm of MBCT is crucial to advancing researchers' understanding of its potential benefits and applicability. First, the issue is the small sample sizes. Second, there are few longitudinal studies and follow-up assessments, and even when there are, the period is short, i.e., within 30 years. Third, measurement errors in data collection can be a significant concern as they can introduce inaccuracies in a study's results. These errors can manifest in various ways, such as inaccurate self-reports. Meanwhile, many studies have focused only on the general effects of MBCT on the entire population without comparing the effects of MBCT on gender, age, socioeconomics, and ethnicity. Finally, the effectiveness of MBCT needs to be evaluated more systematically.

First, to overcome the limitation of small sample sizes, future studies should prioritize conducting large-scale clinical trials involving diverse populations. This will provide a more robust statistical basis for evaluating the effectiveness of MBCT across various contexts and populations. To gain a deeper insight into the long-term effects of MBCT, researchers should design studies with extended follow-up periods spanning well beyond 30 years. Additionally, to gain a deeper insight into the long-term effects of MBCT, researchers should design studies with extended follow-up periods spanning well beyond 30 years. This will allow researchers to capture nuanced shifts in behavior, attitudes, or outcomes and allow for a comprehensive examination of the sustainability of MBCT's benefits and its impact on individual's mental health for their lives. For methodologies, to mitigate these errors and improve the validity and reliability of the study's findings, future studies can benefit from implementing methodologies that involve repeated measurements to enable researchers to assess the stability and reliability of their measurements. Calculating measures of reliability, such as test-retest reliability, becomes more feasible with multiple data points. Besides, future research should focus on conducting subgroup analyses to assess how MBCT affects different demographic groups, including gender, age, socioeconomic status, and ethnicity. Understanding whether MBCT has varying effects on these groups could allow for more culturally sensitive applications and lead to more tailored and effective interventions. Meanwhile, complementing quantitative data with qualitative research can illuminate the mechanisms underlying MBCT's effectiveness and help identify potential barriers or facilitators to its success. In conclusion, in addressing these limitations, future research on MBCT can provide a more nuanced understanding of its effects, its suitability for different populations, and its long-term impact on mental health and well-being.

References

- [1] Belmaker R. H., Agam G. Major depressive disorder. *New England Journal of Medicine*, 2008, 358 (1): 55 – 68.
- [2] Shallcross A. J., Gross J. J., Visvanathan P. D., Kumar N., Palfrey A., Ford B. Q., Dimidjian S., Shirk S., Holm-Denoma J., Goode K. M., Cox E., Chaplin W., Mauss I. B. Relapse prevention in major depressive disorder: Mindfulness-based cognitive therapy versus an active control condition. *Journal of Consulting and Clinical Psychology*, 2015, 83 (5): 964 – 975.

- [3] McGinn L. K. Cognitive behavioral therapy of depression: theory, treatment, and empirical status. *American journal of psychotherapy*, 2000, 54(2): 257 - 262.
- [4] Irvin J. E., Bowers C. A., Dunn M. E., Wang M. C. Efficacy of relapse prevention: A meta-analytic review. *Journal of Consulting and Clinical Psychology*, 1999, 67 (4): 563 - 570.
- [5] Lindsay E. K., Creswell J. D. Mechanisms of mindfulness training: Monitor and Acceptance Theory (MAT). *Clinical psychology review*, 2017, 51: 48 - 59.
- [6] Shallcross A. J., Willroth E. C., Fisher A., Dimidjian S., Gross J. J., Visvanathan P. D., Mauss I. B. Relapse/recurrence prevention in major depressive disorder: 26-month follow-up of mindfulness-based cognitive therapy versus an active control. *Behavior therapy*, 2018, 49 (5): 836 - 849.
- [7] Eisendrath S. J., Gillung E., Delucchi K., Mathalon D. H., Yang T. T., Satre D. D., Rosser R., Sipe W. E., Wolkowitz O. M. A preliminary study: efficacy of mindfulness-based cognitive therapy versus sertraline as first-line treatments for major depressive disorder. *Mindfulness*, 2015, 6 (3): 475 - 482.
- [8] Jermann F., Van der Linden M., Gex-Fabry M., Guarin A., Kosel M., Bertschy G., Aubry J. M., Bondolfi G. Cognitive functioning in patients remitted from recurrent depression: Comparison with acutely depressed patients and controls and follow-up of a mindfulness-based Cognitive Therapy Trial. *Cognitive Therapy and Research*, 2013, 37 (5): 1004 – 1014.
- [9] Geurts D. E. M., Compen F. R., Van Beek M. H. C. T., Speckens A. E. M. The effectiveness of mindfulness-based cognitive therapy for major depressive disorder: Evidence from routine outcome monitoring data. *BJPsych Open*, 2020, 6 (6).
- [10] de Klerk-Sluis J. M., Huijbers M. J., Löck S., Spijker J., Spinhoven P., Speckens A. E., Ruhe H. G. Factors associated with relapse and recurrence of major depressive disorder in patients starting mindfulness-based cognitive therapy. *Depression and anxiety*, 2021, 39 (2): 113 - 122.
- [11] Farb N., Anderson A., Ravindran A., Hawley L., Irving J., Mancuso E., Gulamani T., Williams G., Ferguson A., Segal Z. V. Prevention of relapse/recurrence in major depressive disorder with either mindfulness-based cognitive therapy or cognitive therapy. *Journal of Consulting and Clinical Psychology*, 2018, 86 (2): 200 – 204.
- [12] Holas P., Krejtz I., Wisiecka K., Rusanowska M., Nezlek J. B. Modification of attentional bias to emotional faces following mindfulness-based cognitive therapy in people with a current depression. *Mindfulness*, 2020, 11 (6): 1413 – 1423.