Meta-Analysis: The Use of Mindfulness-Based Cognitive Therapy for Depression Symptoms

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Revised:
2024-04-02

Published:
2024-06-01

Keywords:
Depression; Intervention Procedure; Mindfulness-Based Cognitive Therapy

How to cite:
Arisudana, M., & Yudiarso, A. (2024). Meta-Analysis: The Use of Mindfulness-Based Cognitive Therapy for Depression Symptoms. *Bulletin of Counseling and Psychotherapy, 6*(2). https://doi.org/10.51214/00202406894000

Published by:
Kuras Institute

E-ISSN:
2656-1050

ABSTRACT: This meta-analysis investigates the effectiveness of Mindfulness-Based Cognitive Therapy (MBCT) in addressing depression across diverse contexts. Drawing from 13 studies, it examines the impact of MBCT on depressive symptoms using various measurement tools such as the Depression Anxiety and Stress Scale (DASS) and Beck-Depression Inventory (BDI). The findings underscore the importance of tailoring intervention materials to participant characteristics and completing the full MBCT program for significant outcomes. Additionally, components of MBCT, such as mindful awareness and cognitive restructuring, emerge as key factors in reducing depressive symptoms. Moderator analysis reveals no significant difference between in-person and internet-based MBCT delivery, highlighting the importance of consistent participation and mindfulness practice for successful outcomes.

INTRODUCTION

The prevalence of mental disorders, as indicated by symptoms of depression and anxiety in individuals aged >15, stands at 6.1% or approximately 11 million people in Indonesia. Among individuals aged 15–24, approximately 6.2% experience depression, with only 8% of them recorded as receiving psychological treatment (Kementrian Kesehatan RI [Kemenkes RI], 2018). Based on several previous studies, this is attributed to various factors, such as lack of awareness of one's own mental disorder, the presence of stigma that constrains individuals from opening about their issues, and difficulties in accessing mental health services (Doblyte & Mejías, 2017). Furthermore, since the COVID-19 pandemic, there has been an increase in the prevalence of depression. In the US, the prevalence of mild depression symptoms increased from 16.2% (95% CI, 15.1%-17.4%) before COVID-19 to 24.6% (95% CI, 21.8%-27.7%) during the pandemic; moderate depression symptoms increased from 5.7% (95% CI, 4.8%-6.9%) to 14.8% (95% CI, 12.6%-7.4%); and severe depression symptoms increased from 2.1% (95% CI, 1.6%-2.8%) to 7.9% (95% CI, 6.3%-9.8%) (Ettman et al., 2020).

Depression is defined as a mental disorder in which individuals experience five (or more) depressive symptoms simultaneously and persist for at least 14 days. Depressive symptoms include: (1) a depressed mood, (2) loss of interest in several activities, (3) significant weight loss/gain, (4) insomnia/hypersomnia, (5) psychomotor agitation/retardation, (6) fatigue or loss of energy, (7) feelings of worthlessness, (8) diminished ability to think or concentrate, (9) recurrent thoughts of death or suicide. Through this definition, it can be observed that depression affects individuals in both cognitive and affective aspects leading to behavioral changes. The decline in individual functioning due to depression will worsen if early detection of depression is not carried out, and in the worst cases, it can lead to suicide attempts (American Psychiatric Association [APA], 2013).

During the COVID-19 pandemic period, various sectors have been pushed to transition to digital forms, including mental health services, due to physical contact restrictions to prevent COVID-19

transmission (Giordano, Ambrosiano, Graffeo, Caro, & Gullo, 2022). Moreover, the COVID-19 pandemic has also introduced other stressors that trigger increased mental health issues such as excessive fear of contagion, job or business uncertainty, and several symptoms characterized by anxiety, post-traumatic stress (PTS) (Asmundson & Taylor, 2020). Prolonged quarantine also triggers several other chronic factors such as feelings of isolation over an extended period and unfulfilled social contact needs. These causative factors have led to a rapid increase in the demand for online psychotherapy services. One form of psychotherapy adapted into online formats is mindfulness-based cognitive therapy (MBCT) (Nissen et al., 2021).

The concept of "mindfulness" itself originates from Buddhism and has been adopted in psychology as an approach to adaptively respond to mental events contributing to emotional issues (MacKenzie & Kocovski, 2016). The fundamental principle underlying mindfulness practice brings awareness to focus on the present moment without judgment, indirectly rejecting negative thoughts about the past or future that often arise in depression (Sachdeva, Kaur, & Avasthi, 2019). Mindfulness-based cognitive therapy (MBCT) is one psychotherapy based on the integration of "mindfulness" and "Cognitive Therapy" concepts by Zindel Segal, John Teasdale, and Mark Williams to address vulnerability or recurrence of depressive episodes (Chayadi, Baes, & Kiropoulos, 2022). This curative approach is based on findings from cognitive research on vulnerability that has linked relapse to the reactivation of negative mood-related thought patterns and inappropriate responses to negative cognition and emotions such as rumination and thought suppression. The main difference between MBCT and CBT is that the emphasis in MBCT is on changing one's relationship with thoughts while the emphasis in CBT is on challenging the content of thoughts that trigger psychological problems (Huijbers et al., 2017).

In terms of effectiveness, several previous studies have shown that psychological interventions conducted online can effectively reduce individuals' depression levels. In a study on online mindfulness sessions for patients with depression and chronic back pain in the UK, it was shown that patients who did not complete the intervention series had a higher severity level ($M = 15.9$, $SD = 2.4$) compared to patients who completed the intervention series ($M = 13.8$, $SD = 4.0$, $p = 0.05$) (Hearn & Finlay, 2018). Adaptations of intervention forms have also been made, such as Evidence-Based Online Depression Prevention, transitioning from offline to online formats. After eight weeks of intervention, the results showed a significant reduction in depressive symptoms (95% CI (0.46-3.59) (Ewais et al., 2021). The numerous social changes since MBCT was first developed in 2002 have led various MBCT practitioners to develop several different MBCT procedures with MBCT manual books (Nissen et al., 2019). Certainly, there are several variables that change when an intervention procedure is adapted into another form. The aim of this study is to examine how changes in intervention media and the procedure of providing MBCT affect its effectiveness in reducing depression levels through moderator analysis. The results of this study are expected to be used to optimize existing MBCT procedures and to be considered in diversifying intervention procedures to facilitate access to psychotherapy services.

METHODS

Design

This study adopts a meta-analysis design to investigate the effectiveness of mindfulness-based cognitive therapy (MBCT) in preventing depression relapse, with a focus on the role of intervention procedures as moderators. Data will be collected from relevant empirical studies that have been conducted previously in the scientific literature. Meta-analysis methods will be used to integrate findings from these studies, enabling comprehensive quantitative analysis of the effects of MBCT on depression relapse. This approach allows for the evaluation of the overall effectiveness of MBCT and determines whether its effects are consistent across included studies. Additionally, the role of intervention procedures as moderators will be specifically examined through path analysis to

understand the mechanisms underlying the effects of MBCT in preventing depression relapse. Thus, this research design will provide in-depth insights into the effectiveness of MBCT and the moderating role of intervention procedures in the context of depression management.

Statistic Method

The statistical analysis method used is standardized mean difference (SMDs) based on Hedges' g formula to measure depression by examining the magnitude of effect size (ES). Statistical analysis was conducted using the Jamovi 2.3.1 application (analysis tab – MAJOR – M, SD Difference). A positive ES indicates the effectiveness of MBCT in reducing the level of depression, while a negative ES indicates an increase in the level of depression. Other analyses conducted include Egger's test to assess publication bias in this study. Heterogeneity in the study was assessed using the I2 value. Factors that may influence the results of the study were also analyzed as moderators. The articles used in this analysis were obtained based on various considerations.

Article Collection Method

Data search in this study followed procedures taken from PRISMA (Moher, et al., 2015). The search engine used for the search was Google Scholar using 'advanced search' by searching for specific words in the title of the research, namely the words 'mindfulness', 'based', 'cognitive', 'therapy', 'depression', with several exclusion words such as 'review', 'meta'. In addition, the research year was also set for the last 8 years (2016 - 2024). Justification behind this time limitation is to reach the most updated studies but simultaneously trying to include studies from both pre and post COVID-19 pandemic.

Inclusion & Exclusion Criteria

The type of study used in this meta-analysis is experimental studies with between-group study designs related to the use of MBCT in cases of depression. Some MBCT-depression experimental studies using single-case study designs are included in the exclusion category. Other studies such as correlation tests, case reports, and some studies not written in English are also not used. In this study, the intervention used focuses on MBCT, so some studies using similar intervention methods such as MBSR, MBCR are included in the exclusion category. The research results used are those that include the magnitude of experimental outcomes, including mean scores, and standard deviations of depression levels.

Study Selection

Title and abstract screening, selecting several duplicate studies found from two different search engines. Then, filtering research findings based on the listed abstracts. Research that fits the inclusion category will be checked for the availability of full-text access. Full-text article review. After obtaining access to read the entire article, another selection of articles is made based on inclusion and exclusion criteria, especially in the results section. Some studies with appropriate study designs but do not include outcome measures (M, SD) cannot be used in the analysis process. Theses/dissertations and journal publications not written in English are also not used in the analysis process. After going through the selection process from 284 database results, 13 journals that meet the research criteria were obtained as can be seen in *figure 1.*

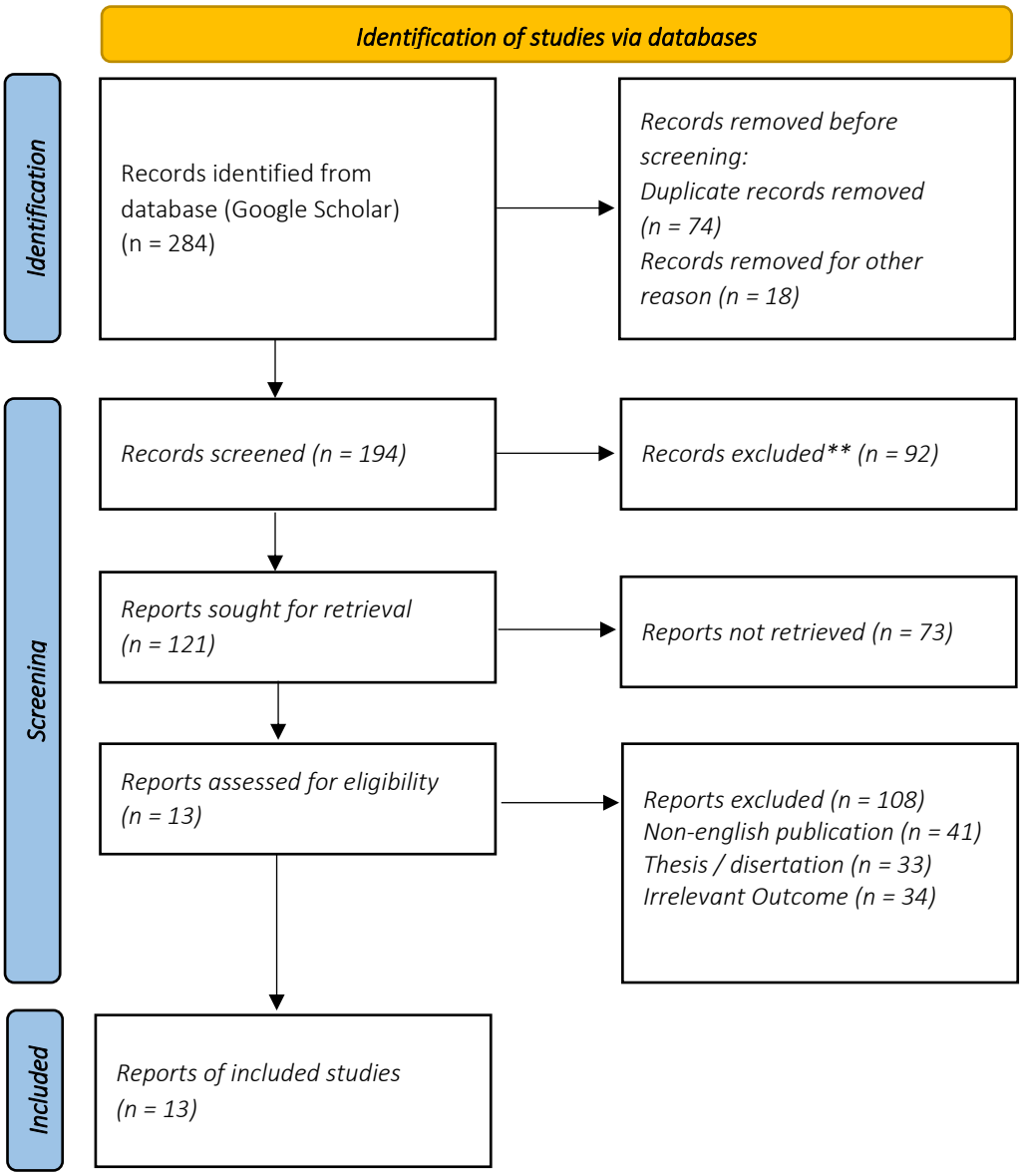

Figure 1. PRISMA Flowchart

RESULTS AND DISCUSSION

Results

All studies used investigated the effectiveness of MBCT (K = 13) in reducing individual depression levels using a between-group study design. The selection of control and treatment groups in each study used randomized control trials (RCT) (K = 13). There are 4 MBCT procedures provided to participants in the studies used; (1) MBCT; (2) Internet Delivered MBCT (iMBCT); (3) MBCT + Treatment as Usual (TAU); and (4) MBCT + Heart of Living Mindfully (HeLM). Of the total 819 participants in the 13 studies used, participants who received MBCT were (N = 485), iMBCT (N = 112), MBCT + TAU (K = 211), MBCT + HeLM (N = 11). The average number and duration of MBCT sessions provided were 8.31 sessions and 105 minutes for each session.

Table 1. Random Effects Model (K = 13)

Outcomes	*Sample size*		*Estimate Effect Size*			*Heterogenity*		
	K	N	Hedges'g	95% CI	*p*	Q	*p*	I^2(%)
Depression Score	13	819	0.93	[0.35, 1,51]	0.002	63.18	< 0.001	92.83%

Based on the statistical analysis results of 13 studies examining the effectiveness of MBCT in reducing depression levels, mindfulness-based cognitive therapy has a superior impact in helping individuals reduce their level of depression. (K=13, Hedges' g = 0.93, CI: [0.35, 1.51], p < 0.001). Then, looking at the results of the heterogeneity test, it can be seen that the literature used in the analysis process is heterogeneous (Q = 63.18, p < 0.001, I2 = 92.83%), which forms the basis for discussion to examine the variations provided in each study involved in the analysis process.

Table 2. Moderator Analysis

Moderator	*Sample size*		*Estimate Effect Size*			*Heterogenity*		
	K	N	Hedges'g	95% CI	*p*	Q	*p*	I^2(%)
Procedure	13	826	0.13	[-0.33, 0.57]	0.584	62.69	< 0.001	93.48%
Intervention Media	13	836	-0.33	[-2.58, 1.91]	0.772	63.01	<0.001	93.35%

In this study, there are several variables used as moderators, namely intervention procedures and intervention delivery media. Out of the 13 studies used in the analysis, there are 4 variations in terms of MBCT implementation: MBCT (K = 8), iMBCT (K = 1), MBCT+TAU (K = 3), and MBCT+HeLM (K = 1). In addition, intervention delivery media is divided into two categories: offline delivery (K = 12) and online delivery (K = 1). Based on the statistical results obtained, different intervention procedures did not affect the treatment outcomes (Hedges' g = 0.13, CI = [-0.33, 0.57], p = 0.584). Similarly, there were no differences in outcomes between MBCT conducted in-person and those conducted online (Hedges' g = -0.33, CI = [-2.58, 1.91], p = 0.772).

Table 3. Publication Bias Assesment

Test Name	*Value*	*p*
Fail-safe N	379.000	<0.001
Egger's Regression	4.881	<0.001

Based on the statistical analysis results, there is stability in the outcomes (fail-safe N, p < 0.001), but this also indicates the presence of publication bias. Egger's regression analysis (p < 0.001) indicates publication bias in this study or asymmetry in the distribution of research findings involved in the analysis process. This implies that the results of this study should be interpreted considering other factors that may potentially influence asymmetry in the distribution of outcomes.

Discussion

The aim of this study is to examine the effectiveness of MBCT in addressing depression in various contexts. A psychological intervention involves several variables affecting intervention outcomes, such as client characteristics, intervention environment, and interaction with other interventions. This section will discuss the effectiveness of MBCT in the studies involved in statistical analysis. Additionally, it will discuss the interaction of variables found in each involved study.

In measuring participants' levels of depression, anxiety, and rumination, the majority of participants in the studies involved were assessed using various measurement tools such as the Depression Anxiety and Stress Scale (DASS), Beck-Depression Inventory (BDI), Chinese Perceived Stress Scale (CPSS), Ruminative Response Scale (RSS), Depressive Symptomatology Self-Report (IDS-SR), Hamilton Depression Rating Scale (HDRS), and State-Trait Anxiety Inventory – Y Form (STAI-Y).

Overall, MBCT significantly helps reduce depression symptoms in each study involved. In a study on adults and elderly individuals with cardiovascular disease, it was found that restructuring thoughts in the MBCT process could help patients reduce excessive anxiety about their physical condition, even though there were no significant changes in their physical health condition (Alsubaie

et al., 2020). Based on participant interviews, it was also reported that face-to-face sessions with therapists were very helpful in understanding the MBCT material provided. This implies that the delivery of intervention material needs to be tailored to participant characteristics to facilitate their understanding of the material presented. The same was reported in a study on Internet Delivered MBCT (iMBCT) in cancer patients. In the intervention procedure (Nissen et al., 2019), cancer survivors were involved in developing modules tailored to the characteristics of cancer patients. It was also found that the elderly had the highest iMBCT dropout rate, possibly due to their lack of understanding of operating electronic devices/the Internet and their resistance to new things. This also indicates that the mismatch between intervention procedures and client characteristics potentially reduces client retention in completing the MBCT process.

Some studies also state important components in MBCT in dealing with depression. In a study (Chan et al., 2020), it was stated that mindful awareness and cognitive restructuring are key factors in improving mental well-being. Additionally, MBCT can also help individuals with self-acceptance, managing negative thoughts, which can ultimately increase self-compassion (Foroughi et al., 2019). MBCT is also considered to help treatment-resistant depression (TRD) in reducing depressive symptoms (Cladder-Micus et al., 2018). In the TRD study, differences were also found between intention-to-treat (ITT) participants and per-protocol (PP) patients. The ITT group or participants who did not follow the entire intervention process showed no significant results between the treatment provided and their depression condition. Conversely, significant results were found in the PP group who underwent the entire MBCT series for 8 weeks. This indicates that the completion rate or completion level in an MBCT series needs to be considered. In a similar study in the previous year (Cladder-Micus, Becker, Spijker, Speckens, & Vrijsen, 2019), behavioral measurement using breathing focused tasks (BFT) was involved to measure participant rumination. MBCT implementation was assessed to reduce negative thoughts during BFT, but no significant effects were found on rumination measured using self-reported state rumination (VAS). These findings indicate that assessment through BFT is considered more sensitive than measurement using VAS. Additionally, a significantly higher effect size was found in participant groups with high rumination scores. However, this was not found in a study (Frostadottir & Dorjee, 2019) stating that there was no difference between groups with low rumination scores and groups with high rumination scores.

Regarding the post-intervention process, some studies suggest providing additional sessions 2 months after the MBCT series ends (Ghodspour, Najafi, & Boogar, 2018). This is done to help participants who have difficulty consistently practicing mindfulness. This inconsistency can trigger the recurrence of negative automatic thoughts as distress, which can disrupt individual mental well-being. In facing these automatic thoughts, MBCT helps individuals see the conditions of life they are facing without judgment (Sokeh, Shafiabadi, & Farzad, 2017). A similar study adapted MBCT sessions to be 10 weeks instead of the original 8 weeks. The additional two sessions were designed to help patients adapt mindfulness practice into their daily routines (Mohamed et al., 2017).

In a study (Huijbers, Spinhoven, Schaik, Nolen, & Speckens, 2016), it was stated that patient treatment preferences did not affect MBCT outcomes. Participants who chose medical treatment (mADM) could achieve the same results as participants who chose MBCT to address their depression. mADM patients were reported to have higher levels of awareness and acceptance of vulnerability to depression. This is difficult to generalize due to the many external factors that can influence it. A similar statement also emerged regarding the importance of patient resilience in following the entire MBCT procedure (Khazami & Bozorgi, 2021).

As essentially, moderator analysis in this meta-analysis is exploratory, and its findings are preliminary and can be used as considerations for future research. In the analysis of intervention delivery media, no differences were found in outcomes between MBCT delivered in-person and via the internet (iMBCT). However, it should be noted that out of the 13 studies used in the meta-analysis, only 1 used iMBCT as the intervention method. Then, in the analysis of intervention

procedures as moderators, no differences were found in outcomes among studies. Each study involved in the analysis process stated that; participation in the entire MBCT series (per-protocol, suitability of material delivery to participant characteristics/understanding of participant material, positive attitudes toward the intervention process, and consistency in applying mindfulness practice) becomes a factor that can predict the success of MBCT.

Limitations and Future Research Direction

Limitation of this research lies in the heterogeneity of the studies included in the meta-analysis. The diversity in intervention procedures, participant characteristics, and outcome measures across studies may introduce variability that could affect the overall conclusions drawn from the meta-analysis. Additionally, the limited number of studies investigating certain aspects of MBCT, such as Internet Delivered MBCT (iMBCT), suggests a gap in the literature that warrants further investigation.

Future research should aim to address the limitations identified in this study and further explore the effectiveness of MBCT in various populations and contexts. Specifically, researchers could conduct more studies focusing on iMBCT to better understand its efficacy and feasibility compared to traditional in-person MBCT. Moreover, longitudinal studies examining the long-term effects of MBCT beyond the intervention period would provide valuable insights into its sustained benefits for individuals with depression. Additionally, investigating the mechanisms underlying the effectiveness of MBCT, such as its impact on cognitive processes and neural mechanisms, could enhance our understanding of how and why MBCT works. Finally, studies exploring the optimal delivery format and duration of MBCT sessions, as well as strategies to improve participant engagement and retention, would contribute to refining and optimizing MBCT interventions for depression management.

CONCLUSION

This research demonstrates that Mindfulness-Based Cognitive Therapy (MBCT) is effective in reducing depressive symptoms across various contexts, with consistent results from various measurement tools such as DASS, BDI, CPSS, RSS, IDS-SR, HDRS, and STAI-Y. The findings highlight the importance of adapting intervention materials according to participants' characteristics to enhance the effectiveness of MBCT, and the need for completing the entire MBCT program to achieve significant results. Components of MBCT such as mindful awareness and cognitive restructuring play key roles in reducing depressive symptoms, with post-intervention sessions recommended to maintain mindfulness practices. Although patient treatment preferences do not affect MBCT outcomes, the importance of patient resilience in completing the MBCT procedure is also emphasized. Moderator analysis indicates that there is no significant difference between MBCT delivered in-person and via the internet (iMBCT), with full participation in the MBCT program and consistency in mindfulness practice being important predictive factors for MBCT success. These findings are expected to provide important guidance for future research and MBCT practitioners.

ACKNOWLEDGMENT

Authors extend our heartfelt gratitude to all participants who generously contributed their time and insights to this study. Additionally, we appreciate the invaluable support and guidance provided by our colleagues and research team throughout the research process.

AUTHOR CONTRIBUTION STATEMENT

Both authors made fair share of contributions and approved the final version of the manuscript.

REFERENCES

Alsubaie, M., Dickens, C., Dunn, B. D., Gibson, A., Ukoumunne, O. C., Evans, A., . . . Kuyken, W. (2020).

Feasibility and Acceptability of Mindfulness-based Cognitive Therapy Compared with Mindfulness-based Stress Reduction and Treatment as Usual in People with Depression and Cardiovascular Disorders: a Three-Arm Randomised Controlled Trial. *Mindfulness*. https://doi.org/10.1007/s12671-018-0999-8

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders : DSM-5.* New York. https://www.psychiatry.org/psychiatrists/practice/dsm

Asmundson, G. J., & Taylor, S. (2020). Coronaphobia: Fear and the 2019-nCoV outbreak. *Journal of Anxiety Disorders*. https://doi.org/10.1016/j.janxdis.2020.102196

Chan, S. H., Chan, W. W., Chao, J. Y., & Chan, P. K. (2020). A randomized controlled trial on the comparative effectiveness of mindfulness-based cognitive therapy and health qigong-based cognitive therapy amongChinese people with depression and anxiety disorders. *BMC Psychiatry*. https://doi.org/10.1186/s12888-020-02994-2

Chayadi, E., Baes, N., & Kiropoulos, L. (2022). The effects of mindfulness-based interventions on symptoms of depression, anxiety, and cancer-related fatigue in oncology patients: A systematic review and meta-analysis. *PLoS One*. https://doi.org/10.1371/journal.pone.0269519

Cladder-Micus, M. B., Becker, E. S., Spijker, J., Speckens, A. E., & Vrijsen, J. N. (2019). Effects of Mindfulness-Based Cognitive Therapy on a Behavioural Measure of Rumination in Patients with Chronic, Treatment-Resistant Depression. *Cognitive Therapy and Research*. https://doi.org/10.1007/s10608-019-09997-8

Cladder-Micus, M. B., Speckens, A. E., Vrijsen, J. N., Donders, A. R., Becker, E. S., & Spijker, J. (2018). Mindfulness-based cognitive therapy for patients with chronic, treatment-resistant depression: A pragmatic randomized controlled trial. *Depress Anxiety*. https://doi.org/10.1002/da.22788

Doblyte, S., & Mejías, J. E. (2017). Understanding Help-Seeking Behavior in Depression: A Qualitative Synthesis of Patients' Experiences. *Qual Health Res*. https://doi.org/10.1177/1049732316681282

Ettman, C. K., Abdalla, S. M., Cohen, G. H., Sampson, L., Vivier, P. M., & Galea, S. (2020). Prevalence of Depression Symptoms in US Adults Before and During the COVID-19 Pandemic. *JAMA Network*. https://doi.org/10.1001/jamanetworkopen.2020.19686

Ewais, T., Begun, J., Kenny, M., Hay, K., Houldin, E., Chuang, K.-H., . . . Kisely, S. (2021). Mindfulness based cognitive therapy for youth with inflammatory bowel disease and depression - Findings from a pilot randomised controlled trial. *J Psychosom Res*. https://doi.org/10.1016/j.jpsychores.2021.110594

Foroughi, A., Sadeghi, K., Parvizifard, A., Moghadam, A. P., Davarinejad, O., Varnia, F., & Azhar, G. (2019). The effectiveness of mindfulness-based cognitive therapy for reducing rumination and improving mindfulness and self compassion in patients with treatment-resistant depression. *Trends in Psychiaty and Psychotherapy*. https://doi.org/10.1590/2237-6089-2019-0016

Frostadottir, A. D., & Dorjee, D. (2019). Effects of Mindfulness Based Cognitive Therapy (MBCT) and Compassion Focused Therapy (CFT) on Symptom Change, Mindfulness, Compassion, and Rumination in Clients, With Depression, Anxiety, and Stress. *Frontiers in Psychology*. https://doi.org/10.3389/fpsyg.2019.01099

Ghodspour, Z., Najafi, M., & Boogar, I. R. (2018). Effectiveness of Mindfulness-Based Cognitive Therapy on Psychological Aspects of Quality of Life, Depression, Anxiety, and Stress Among Patients With Multiple Sclerosis. *Practice in Clinical Psycholog*. https://doi.org/10.32598/jpcp.6.4.215

Giordano, C., Ambrosiano, I., Graffeo, M. T., Caro, A. D., & Gullo, S. (2022). The transition to online psychotherapy during the pandemic: a qualitative study on patients' perspectives. *Research in Psychotherapy: Psychopathology*. https://doi.org/10.4081/ripppo.2022.638

Hearn, J. H., & Finlay, K. A. (2018). Internet-delivered mindfulness for people with depression and chronic pain following spinal cord injury: a randomized, controlled feasibility trial. *Spinal Cord*.

https://doi.org/10.1038/s41393-018-0090-2

Huijbers, M. J., Crane, R. S., Kuyken, W., Heijke, L., Hout, I. v., Donders, A. R., & Speckens, A. E. (2017). Teacher Competence in Mindfulness-Based Cognitive Therapy for Depression and Its Relation to Treatment Outcome. *Mindfulness*. https://doi.org/10.1007/s12671-016-0672-z

Huijbers, M. J., Spinhoven, P., Schaik, D. J., Nolen, W. A., & Speckens, A. E. (2016). Patients with a preference for medication do equally well in mindfulness-based cognitive therapy for recurrent depression as those preferring mindfulness. *Journal of Affective Disorders*. http://dx.doi.org/10.1016/j.jad.2016.01.041

Kementrian Kesehatan RI. (2018). *Hasil Utama RISKESDAS.* Jakarta: Badan Penelitian dan Pengembangan Kesehatan. Retrieved from https://kesmas.kemkes.go.id/assets/upload/dir_519d41d8cd98f00/files/Hasil-riskesdas-2018_1274.pdf

Khazami, M., & Bozorgi, Z. D. (2021). Effectiveness of the Mindfulness-Based Cognitive Therapy on Depression, Stress, and Anxiety Among COVID-19 Patients. *Jundishapur J Health Science*. https://doi.org/10.5812/jjhs.117000

MacKenzie, M. B., & Kocovski, N. L. (2016). Mindfulness-based cognitive therapy for depression: trends and developments. *Psychology Research and Behavior Management*. https://doi.org/10.2147/PRBM.S63949

Mohamed, M., Fine, A., Fotinos, K., Weich, A., Kate, K., Rose, M., . . . Katzman, M. A. (2017). Effects of Group Mindfulness-Based Cognitive Therapy on Depression and Role Impairment in a Comorbid Psychiatric Population. *Journal of Psychology & Psychotherapy*. https://doi.org/10.4172/2161-0487.1000304

Moher, D., Shamseer, L., Clarke, M., Ghersi, D., Liberati, A., Petticrew, M., . . . Stewart, L. A. (2015). Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015 statement. *Systematic Reviews*. https://doi.org/10.1186/2046-4053-4-1

Nissen, E. R., O'Connor, M., Kaldo, V., Højris, I., Borre, M., Zachariae, R., & Mehlsen, M. (2019). Internet-delivered mindfulness-based cognitive therapy foranxiety and depression in cancer survivors: A randomizedcontrolled trial. *Psycho-Oncology*. https://doi.org/10.1002/pon.5237

Nissen, E. R., Zachariae, R., O'Connor, M., Kaldo, V., Jørgensen, C. R., Hojris, I., . . . Mehlsen, M. (2021). Internet-delivered Mindfulness-Based Cognitive Therapy for anxiety and depression in cancer survivors: Predictors of treatment response. *Internet Interventions*. https://doi.org/10.1016/j.invent.2021.100365

Sachdeva, D., Kaur, H., & Avasthi, A. (2019). Mindfulness-based cognitive therapy (MBCT) for Depression - Review and Current Trends. *Journal of Disability Management and Rehabilitation*.

Sokeh, M. Y., Shafiabadi, A., & Farzad, V. (2017). Comparison of the efficacy of acceptance and commitment group therapy (ACT) with mindfulness-based cognitive therapy (MBCT) on hemodialysis patients in terms of anxiety and depression. *Journal of Fundamentals of Mental Health*. https://doi.org/10.22038/JFMH.2017.9127