



MINDFULNESS BASED INTERVENTIONS (MBIS) IN PSYCHIATRY – A BIRD'S EYE VIEW FROM THE FIRST DECADES OF THE 21ST CENTURY.

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ABSTRACT

Psychiatry of the 21st century is also characterized by ramification into various specialized branches. Revolutions in the areas of psychopharmacology, psychotherapies and social therapies have become a routine in the field of psychiatry. Mindfulness is one concept spanning across the bio-psycho-social realms which continues to be a topic of current interest both for the professionals as well as the lay public since more than 5 decades. Two of the most common among them are Mindfulness Based Stress Reduction, a stress management model by Jon Kabat Zinn and Mindfulness Based Cognitive Therapy, a mindfulness based model devised to prevent the relapse of depression⁶, by John Teasdale, Mark Williams and Zindel Segal. Several countries in the world have their own MBIs like Mindfulness Integrated Cognitive Behaviour therapy by Bruno Cayoun⁸. India also has its own share of MBIs in the form of Mindful Life Management⁹ and Mindfulness Unified Cognitive Behaviour Therapy¹⁰ developed by the author, though research evidences are only getting accumulated.

MBIs aim to enhance greater attention to and awareness of present moment experience¹². MBIs have been found to be of use in realms of health, cognitive, affective and interpersonal relationships. Various other factors related to MBIs like psychological and neurobiological mechanisms and potential risks also have been studied by several authors. Neurobiological effects of MBIs have been reported as functional and structural alterations in grey and white matter, especially in areas related to attention and memory, interoception and sensory processing, or self- and auto-regulation of stress and emotions. Amidst all these researches happening in different parts of the world, India didn't have any structured MBIs of its own till the end of the first decade of 21st century, until the development of Mindful Life Management and Mindfulness Unified Cognitive Behavior Therapy by the author. This article covers the work being done by mindfulness researchers during the first two decades of the 21st century.

KEYWORDS :

INTRODUCTION

The practice and education of psychiatry in the 21st century has been significantly affected and altered by the shifting scientific, technological, social, and financial scenarios¹. The criteria for diagnosis, the management strategies and the legal environments in which the science of psychiatry is practiced, are rapidly changing in many countries including India. Psychiatry of 21st century is also characterized by ramification into various specialized branches like child and adolescent psychiatry, general psychiatry, biological psychiatry, addiction psychiatry, geriatric psychiatry and judicial and forensic psychiatry². Revolutions in the areas of psychopharmacology, psychotherapies and social therapies have become a routine in the field of psychiatry. Biological underpinnings of psycho-social therapies are yet another area that is becoming endearing to psychiatrists the world over. Mindfulness is one concept spanning across the bio-psycho-social realms which continues to be a topic of current interest both for the professionals as well as the lay public since more than 5 decades

Mindfulness

Mindfulness has been defined by various authors, among which a definition by Jon Kabat Zinn seems to be simple, pragmatic and useful. One such definition is quoted here. Mindfulness has been defined as the awareness that can be cultivated by paying attention, on purpose, to the unfolding of moment to moment experience with openness, curiosity and a non-judgmental attitude³. Mindfulness emphasizes consciously focusing the mind in the present moment purposefully, without judgment or attachment⁴. The current paper is a bird's eye view of vital available publications during the decades 2001-2021.

Mindfulness Based Interventions (MBIs)

A large variety of MBIs do exist in the different part of the world. Two of the most common among them are Mindfulness Based Stress Reduction (MBSR)⁵, a stress management model by Jon Kabat Zinn and Mindfulness Based Cognitive Therapy (MBCT), a mindfulness based model devised to prevent the relapse of depression⁶, by John Teasdale, Mark Williams and

Zindel Segal. Yet another Mindfulness Based therapy used in the management of depression is Acceptance and Commitment Therapy by Steve Hayes⁷. Several countries in the world have their own MBIs like Mindfulness Integrated Cognitive Behaviour therapy (MiCBT) by Bruno Cayoun⁸. India also has its own share of MBIs in the form of Mindful Life Management (MLM)⁹ and Mindfulness Unified Cognitive Behaviour Therapy (MUCBT)¹⁰ developed by the author, though research evidences are only getting accumulated. A general structure of these various MBIs is given elsewhere¹¹.

MBIs aim to enhance greater attention to and awareness of present moment experience¹². The previous 2 decades have marked an increase in the number of research publications at all levels of evidence. These studies have verified the usefulness of MBIs in multiple domains like stress, chronic pain, depression, anxiety and addiction. MBIs have been found to be of use in realms of health, cognitive, affective and interpersonal relationships. Various other factors related to MBIs like psychological and neurobiological mechanisms and potential risks also have been studied by several authors^{13,14}.

Neurobiological effects of MBIs have been reported as functional and structural alterations in grey and white matter, especially in areas related to attention and memory, interoception and sensory processing, or self- and auto-regulation of stress and emotions. On a molecular level, increase in dopamine and melatonin, modulation of serotonin activity, and a reduction in cortisol as well as norepinephrine have been documented. Many of these findings reflected in functional and structural imaging techniques such as fMRI or EEG have caught the attention of researchers. These changes may be relevant especially with reference to therapeutic strategies for behavior change and life-style modification, or in association with stress regulation and the treatment of addiction. Studies have reported that neuronal mechanisms of mindfulness can be divided into four areas other than neuroplasticity. These include attention regulation, body awareness, emotion regulation and self-perception¹⁵.

MBIs in Mental Health Scenario

MBIs are increasingly being incorporated into mental health interventions¹⁶. Theoretical concepts associated with it have influenced the basic research on psychopathology. Researchers have documented efficacious application of MBIs to specific domains of psychopathology including, depressive disorder, anxiety disorder, chronic pain, substance use, stress, eating disorders and other attention disorders. These studies have suggested evidently that MBIs are a promising basis for intervention with particular potential relevance to psychiatric comorbidity.

MBIs are effective in reducing anxiety and depressive symptom severity in a range of individuals. MBIs consistently have been shown to outperform nonevidence based treatments and active control conditions such as health education, relaxation training and supportive psychotherapy¹⁷. They also have been shown to perform comparably with Cognitive Behaviour Therapy (CBT).

A systematic review and meta-analysis conducted in 2018 in 142 nonoverlapping samples and 12005 participants showed that at post treatment MBIs were superior to no treatment, minimal, nonspecific active controls and specific active controls. At follow-up MBIs were superior to no treatment conditions, nonspecific active controls and specific active controls. Effects on specific disorder subgroups showed the most consistent evidence in support of MBIs for depression, pain conditions, smoking and addictive behaviours¹⁸. The results support the notion that MBIs hold promise as evidence-based treatments.

Prevention of depression is a major aim of psychiatry at this dawn of 21st century. Evidences do exist that MBIs halve the risk of relapse in comparison to standard care for people who are currently well but who have experienced at least three prior episodes of depression¹⁹. MBIs were found to be more effective than maintenance antidepressant treatment in reducing residual depressive symptoms and psychiatric comorbidity and in improving quality of life in the physical and psychological domains. There was no difference in average annual cost between the 2 groups. Rates of antidepressant usage in the MBIs group was significantly reduced, and 75% of patients completely discontinued their antidepressant treatment²⁰. Mindfulness predicted the risk of relapse/recurrence after controlling for numbers of previous episodes and residual depressive symptoms²¹. Significant benefits relative to control conditions for primary symptom severity for people experiencing current depressive episode following MBIs have also been reported²².

Currently there is a growing interest in the effectiveness of MBIs for sleep disturbed population. Studies have proved that MBIs may be effective in treating some aspects of sleep disturbance. There is moderate strength of evidence that MBIs significantly improved sleep quality compared with nonspecific active controls at post intervention and at follow up²³.

MBIs appear to be equally effective as existing evidence-based treatments for substance use disorders in reducing the frequency and quantity of substance-related problems, craving for substance use, and at increasing the rate of abstinence²⁴. Authors have also suggested directions for future large scale randomized controlled trials, including investigation of the most suitable settings and protocols, and examination of patient populations that may benefit most from MBIs. MBIs have been shown to have effects on withdrawal / craving and negative consequences compared to control interventions²⁵.

A scoping review of literature on Posttraumatic Stress Disorder (PTSD) treatment studies including approaches such as MBSR, MBCT and metta meditation has revealed low attrition

with medium to large effect sizes²⁶. MBIs have been suggested to target emotional under and overmodulation both of which are critical features of PTSD symptomatology. Recent studies have suggested that MBIs are effective in restoring connectivity between large scale brain networks among individuals with PTSD including connectivity between Default Mode Network (DMN) and the central executive and salience networks²⁶.

MBIs can also be taught to children, adolescents and their parents to improve self regulation, especially in response to stress²⁷. Mindfulness parenting techniques can augment traditional behavioural approaches to improve children's behaviour through specific parent child interaction. Growing body of empirical studies and clinical experience suggest that incorporating mindfulness practices will enable clinicians to more effectively treat youth and their families in coping optimally with a range of challenging symptoms.

A meta-analysis examining the associations between mindfulness and Eating Disorder psychopathology (n=74) showed that mindfulness was negatively associated with eating disorder psychopathology both concurrently and prospectively. Associations were strongest for binge eating, emotional/external eating and body dissatisfaction as well as the acting with awareness and nonjudging facets²⁸.

Though large scale studies are necessary, in general, MBIs have been found to be effective for alleviation of depression and anxiety among bipolar disorder patients, possibly by improving emotional regulation and mindfulness abilities²⁹. Many authors have proposed use of MBIs in individuals with personality disorders because of its effects on emotion regulation³⁰. MBIs show promising effects as an intervention strategy for suicidal behaviour, though large scale, high-quality trials with active control, and long term intervention efficacy studies are suggested as a need to understand the mechanisms through which MBIs reduce suicidal behaviour³¹. A systematic review concluded that MBIs can be safely used in people with psychosis and they provide a number of therapeutic benefits compared with routine care and other interventions³². MBIs were reported to provide a number of significant benefits over routine care and, in some cases, other interventions.

Indian Mindfulness Based Interventions

Amidst all these researches happening in different parts of the world, India didn't have any structured MBIs of its own till the end of the first decade of 21st century. Mindful Life Management (MLM)⁹, a mindfulness based stress management program and Mindfulness Unified Cognitive Behaviour Therapy (MUCBT)¹⁰, a mindfulness unified form of cognitive behaviour therapy were developed by the Holistic and Psychosomatic Clinic of the Department of Psychiatry, Government Medical College, Thiruvananthapuram under the leadership of this author. Both these manualized programs are undergoing several researches^{9,10}. Though these researches are only in the preliminary phase, the initial suggestions are encouraging for a bright sunrise.

Limitations

This bird's eye view does not cover the use of MBIs in special populations like children, elderly, women and specially abled population. Also it does not claim to be a summary of all published literature. Few articles from literature which represent the systematic reviews and meta-analysis only were included in this review. Though systematic reviews and meta-analyses suggest moderate to high effect sizes for some mental health disorders, the field is in dire need to turn the effectiveness trials onto real life situations where suffering due to psychiatric disorders imposes a broad impact on human life.

CONCLUSION

It is difficult to deny the existence of road of benefits which the field of mindfulness offers. Evidences relating to effectiveness of MBIs are available for few psychiatric conditions but further good quality research is warranted for many others. What the author would like to suggest is that there is ample scope for research in the field of the usefulness of MBIs in various psychiatric conditions – both the common and major psychiatric disorders. MBIs also have been reported to be useful for health care professionals. In addition to their role in primary, secondary and tertiary prevention of mental health maladies.

REFERENCES

1. Yager J. The Practice of Psychiatry in the 21st Century: Challenges for Psychiatric Education. *Academic Psychiatry*. 2011 Sep 1;35(5):283–92.
2. Kasper S. Clinical Psychiatry in the 21st Century. *Clin Psychiatry*. 2015;2(1).
3. Baer R, Crane C, Miller E, Kuyken W. Doing no harm in mindfulness-based programs: Conceptual issues and empirical findings. *Clin Psychol Rev*. 2019 Jul;71:101–14.
4. Bostic JQ, Nevarez MD, Potter MP, Prince JB, Benningfield MM, Aguirre BA. Being present at school: implementing mindfulness in schools. *Child Adolesc Psychiatr Clin N Am*. 2015 Apr;24(2):245–59.
5. Sharma M, Rush SE. Mindfulness-Based Stress Reduction as a Stress Management Intervention for Healthy Individuals: A Systematic Review. *J Evid Based Complementary Altern Med*. 2014 Oct;19(4):271–86.
6. Burgess EE, Selchen S, Diplock BD, Rector NA. A Brief Mindfulness-Based Cognitive Therapy (MBCT) Intervention as a Population-Level Strategy for Anxiety and Depression. *J Cogn Ther*. 2021 Jun;14(2):380–98.
7. Gloster AT, Walder N, Levin ME, Twohig MP, Karekla M. The empirical status of acceptance and commitment therapy: A review of meta-analyses. *Journal of Contextual Behavioral Science*. 2020 Oct;18:181–92.
8. Cayoun BA. Mindfulness-Integrated CBT: Principles and Practice. Chichester, UK: John Wiley & Sons, Ltd; 2011.
9. Krishnan S, Lekshmy K, Anil P, Sandhya B, Jayageetha K. Self-reported Emotional Experience Among Police Personnel Before and After Attending a Mindfulness Based Intervention (Mindful Life Management-MLM)-an Observational Study. *KJP* 2020 Oct 31;33(2).
10. Mindfulness meditation benefits patients with MCI and early Alzheimer's disease: SCTIMST [Internet]. *Life Transformation Blog*. 2021 [cited 2021 Jul 11]. Available from: <https://lifetransformationblog.com/mindfulness-meditation-benefits-patients-with-mci-and-early-alzheimers-disease-sctimst/>
11. Sivasubramoney K, Lekshmy K. Mindfulness for Professional Caregivers of Coronavirus Disease-19-Positive Patients – A Realistic Need of the Hour. *Int J Nur Res*. 2020;6(4):120–4.
12. Creswell JD. Mindfulness Interventions. *Annu Rev Psychol*. 2017 Jan 3;68:491–516.
13. Van Gordon W, Shonin E, Garcia-Campayo J. Are there adverse effects associated with mindfulness? *Aust N Z J Psychiatry*. 2017 Oct;51(10):977–9.
14. Lambert D, van den Berg NH, Mendrek A. Adverse effects of meditation: A review of observational, experimental and case studies. *Current Psychology*. 2021 Feb 24;
15. Esch T. The Neurobiology of Meditation and Mindfulness. In: Schmidt S, Walach H, editors. *Meditation – Neuroscientific Approaches and Philosophical Implications*. Cham: Springer International Publishing; 2014. p. 153–73. (Studies in Neuroscience, Consciousness and Spirituality; vol. 2).
16. Wielgosz J, Goldberg SB, Kral TRA, Dunne JD, Davidson RJ. Mindfulness Meditation and Psychopathology. *Annu Rev Clin Psychol*. 2019 May 7;15:285–316.
17. Hofmann SG, Gómez AF. Mindfulness-Based Interventions for Anxiety and Depression. *Psychiatr Clin North Am*. 2017 Dec;40(4):739–49.
18. Goldberg SB, Tucker RP, Greene PA, Davidson RJ, Wampold BE, Kearney DJ, et al. Mindfulness-based interventions for psychiatric disorders: A systematic review and meta-analysis. *Clin Psychol Rev*. 2018 Feb;59:52–60.
19. Ma SH, Teasdale JD. Mindfulness-based cognitive therapy for depression: replication and exploration of differential relapse prevention effects. *J Consult Clin Psychol*. 2004 Feb;72(1):31–40.
20. Kuyken W, Byford S, Taylor RS, Watkins E, Holden E, White K, et al. Mindfulness-based cognitive therapy to prevent relapse in recurrent depression. *J Consult Clin Psychol*. 2008 Dec;76(6):966–78.
21. Michalak J, Heidenreich T, Meibert P, Schulte D. Mindfulness predicts relapse/recurrence in major depressive disorder after mindfulness-based cognitive therapy. *J Nerv Ment Dis*. 2008 Aug;196(8):630–3.
22. Strauss C, Cavanagh K, Oliver A, Pettman D. Mindfulness-based interventions for people diagnosed with a current episode of an anxiety or depressive disorder: a meta-analysis of randomised controlled trials. *PLoS One*. 2014;9(4):e96110.
23. Rusch HL, Rosario M, Levison LM, Olivera A, Livingston WS, Wu T, et al. The effect of mindfulness meditation on sleep quality: a systematic review and meta-analysis of randomized controlled trials. *Ann N Y Acad Sci*. 2019 Jun;1445(1):5–16.
24. Korecki JR, Schwebel FJ, Votaw VR, Witkiewitz K. Mindfulness-based programs for substance use disorders: a systematic review of manualized treatments. *Subst Abuse Treat Prev Policy*. 2020 Dec;15(1):51.
25. Grant S, Colaiaco B, Motaia A, Shanman R, Booth M, Sorbero M, et al. Mindfulness-based Relapse Prevention for Substance Use Disorders: A Systematic Review and Meta-analysis. *Journal of Addiction Medicine*. 2017 Sep;11(5):386–96.
26. Boyd JE, Lanius RA, McKinnon MC. Mindfulness-based treatments for posttraumatic stress disorder: a review of the treatment literature and neurobiological evidence. *J Psychiatry Neurosci*. 2018 Jan;43(1):7–25.
27. Perry-Parrish C, Copeland-Linder N, Webb L, Sibinga EMS. Mindfulness-Based Approaches for Children and Youth. *Curr Probl Pediatr Adolesc Health Care*. 2016 Jun;46(6):172–8.
28. Sala M, Shankar Ram S, Vanzhula IA, Levinson CA. Mindfulness and eating disorder psychopathology: A meta-analysis. *Int J Eat Disord*. 2020 Jun;53(6):834–51.
29. Xuan R, Li X, Qiao Y, Guo Q, Liu X, Deng W, et al. Mindfulness-based cognitive therapy for bipolar disorder: A systematic review and meta-analysis.

Psychiatry Research. 2020 Aug;290:113116.

30. Ottavi, P, Passarella, T., Pasinetti, M., Salvatore, G., & Dimaggio, G. Adapting mindfulness for treating personality disorder. In: *Integrated treatment for personality disorder: A modular approach*. W. J. Livesley, G. Dimaggio, J. F. Clarkin. The Guilford Press; 2016. p. 282–302.
31. Raj S, Ghosh D, Verma SK, Singh T. The mindfulness trajectories of addressing suicidal behaviour: A systematic review. *International Journal of Social Psychiatry*. 2020 Oct 1;002076402096077.
32. Aust J, Bradshaw T. Mindfulness interventions for psychosis: a systematic review of the literature. *J Psychiatr Ment Health Nurs*. 2017 Feb;24(1):69–83.