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Review Article

Mindfulness-Based Intervention (MBI) in Major Depressive Disorder (MDD)

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Abstract

In the management of psychological conditions, there is a need to reduce the dependency on drugs with adverse effects and addiction potential as well as lessen the burden to the patient and family and fiscal burden to governments and healthcare systems. Introduced in the late 1970s, mindfulness-based stress reduction (MBSR) utilizes nonsectarian practices, including body awareness, seated or walking meditation, yoga, and prayer. The adjunct use of one or more of these methods has proved helpful for specific patients in noting and controlling stressors and triggers to thoughts, feelings, and symptoms and in some cases, reducing dependency on medicines with adverse effects, resulting in more effective outcomes from their medical treatment.

Keywords: *Depression; Meditation; Mindfulness; Prayer; Yoga*

Abbreviations

ACT: Acceptance and Commitment Therapy: CBT: Cognitive-Behavioral Therapy; DBT: Dialectical Behavioral Therapy; MBSR: Mindfulness-Based Stress Reduction; MDD: Major Depressive Disorder: NSAID: Nonsteroidal Anti-Inflammatory Drugs; SNRI: Selective Norepinephrine Reuptake Inhibitor; SSRI: Selective Serotonin Reuptake Inhibitor; TCA: Tricyclic Antidepressants

Preface

In the management of psychological conditions, there is a need to reduce the dependency on drugs with adverse effects, and to discover and apply adjunct therapies and methods for more efficacious outcomes with medical treatment. Introduced in the late 1970s, mindfulness-based stress reduction (MBSR)—or mindfulness-based intervention (MBI)—utilizes nonsectarian practices, including body awareness, seated or walking meditation, yoga, and prayer. The adjunct use of one or more of these methods has proved helpful for specific patients in noting and controlling stressors and triggers to their condition and behavior, and in some cases, reducing dependency on medicines with adverse effects, resulting in more effective outcomes in treatment.

Introduction

Mindfulness-based stress reduction (MBSR) or mindfulness-based intervention (MBI) is composed of methods based on historical beliefs, traditions, and practices, including but not limited to Buddhism, Shambhala, Vipassana, and Zen ideologies [1]. A prominent figure in the Western adaptation of Eastern philosophies, beliefs, and practices in MBSR and MBI, Jon Kabat-Zinn describes "mindfulness" as the capacity to maintain mental openness regarding tolerance and a nonjudgmental focus in the present moment.

Other scholars have characterized "mindfulness" as a blend of awareness and focus on fostering self-consciousness, self-awareness, and emotional "control" (paradoxically by dismissing the control of a state of being). MBSR and MBI emphasize neutral, nonjudgmental attitudes and perceptions. In a pathological sense, harmful ideas, feelings, or states of being can promulgate and sustain a cycle of negative thought progression, reinforcing negative states and, in specific cases, medical conditions such as major depressive disorder (MDD) [1].

The theoretical rationale for the application of MBSR and MBI is based on attention-discipline or attention-control via various methods, such as body awareness, meditation, yoga, and or prayer—in order that negative inner thoughts, feelings, and attitudes are abandoned to break a psychosomatic or psycho-psychological negative reinforcement cycle in specific conditions. MBI enables a person or patient to prompt a psychological state of nonjudgmental focus within the present moment experience, regardless of other ideas, feelings, and thoughts that might pass through consciousness during the "practice" or application of particular MBIs.

Discussion

Clinical characteristics of major depressive disorder (MDD)

MDD is a prevalent mental disorder, which manifests as a disabling lack of motivation and impaired social activity. The World Health Organization (WHO) has stated that by 2020, MDD will be the second-highest cause of disability [2]. According to Zou., *et al*. (2018), in a meta-analysis across ten countries, MDD could be observed in nearly 20% of the population [2].

A defined set of criteria differentiates MDD from merely "feeling down" or a "slump" in emotions. For an individual to be given a diagnosis of MDD, a minimum of five of nine criteria need to be met within two weeks, as follows:

1. Depressed mood or irritability usually the greater part of the day, consistently, as reported by patients or others
2. Anhedonia or diminished interest or pleasure in most activities
3. Weight or hunger change
4. Marked decrease or increase in sleep
5. Change in physical activity
6. Fatigue or loss of energy
7. Inappropriate guilt or blame
8. Diminished concentration
9. Suicidal thoughts or ideation [3].

Pros and cons of current treatment regimes for MDD

The pharmacological treatment of MDD is based on several clinical factors, such as age, presence of anxiety, symptom duration, and previous treatment response [4]. Initial treatment for those coping with mild-MDD may include patient education, self-management, and psychotherapy. Although in specific cases of mild-MDD, pharmacological treatments may be appropriate (as in cases where there was a previous positive response to antidepressants), or in refractory depression with nonpharmacological treatments [4].

Moderate to severe MDD requires first-line pharmacologic intervention, including selective serotonin reuptake inhibitors (SSRIs), such as citalopram, escitalopram, fluoxetine, fluvoxamine, and paroxetine; or selective norepinephrine reuptake inhibitors (SNRIs), such as duloxetine and venlafaxine [4]. Those with refractory depression to first-line medications may receive second-line drugs, which include tricyclic antidepressants (TCAs), quetiapine, or trazodone [4].

The standard of care for MDD in a primary care setting typically involves pharmacotherapy. Besides the success of pharmacotherapy compared to nonpharmacotherapy, the large number of patients and limited number of specialized therapists make psychotherapy intervention complicated.

Pharmacologic interventions are not without specific and notable adverse effects with SSRIs, SNRIs, and antidepressants; such adverse effects include but are not limited to abnormal cardiac conduction, termed a prolongation of the QT interval (QTc) observed on electrocardiogram (EKG) [4]. Long-term intake of SSRIs is associated with an increased incidence of falls and fractures [4]. Also, hyponatremia is associated with SSRI use, typically in geriatric patients who have additional risks for low sodium states [4]. SSRIs can hinder platelet function by altering serotonin receptors on platelets, which increases the risk of gastrointestinal hemorrhage, especially when taken in combination with nonsteroidal anti-inflammatory drugs (NSAIDs) [4].

Derivatives of MBI in MDD

Mindfulness-based cognitive therapy (MBCT) for MDD is a promising intervention. MBCT is the synthesis of mindfulness and MBI with established psychotherapy techniques, such as cognitive-behavioral therapy (CBT) [5]. MBCT has fused the quintessential elements of eastern mindfulness practices with western CBT. Also, other treatment methods, e.g., dialectical behavioral therapy (DBT) and acceptance and commitment therapy (ACT), have incorporated specific principles of MBSR and MBI to enhance the efficacy of such therapies [5].

Application of MBI in MDD

Some studies have suggested that the concurrent use of MBI with psychotherapy and pharmacotherapy is effective in treating or ameliorating MDD. Nonetheless, given the current medical treatment paradigm, primary care providers are schooled in pharmacotherapy exclusively [6]. However, although categorized by some as a "low-intensity psychological intervention", MBI has shown promise as a useful adjunct therapy in the treatment and prevention (of relapse) of depression, without adverse effects.

When practiced daily, MBI results in a clinically-significant reduction in depression among MDD patients, including those with physical and mental comorbidities [5]. MBI, when utilized in MDD, aims to provide a self-administered procedure to resist or resolve MDD, also in the tertiary prevention or progression of mental illness [1].

Limitations of MBI in MDD

Given the promise of MBI in MDD and a lack of a "gold-standard" in effectively treating clinical depression, further research may support MBI for those suffering from MDD [1]. The clinical assessment of the severity (or improvement) in MDD is challenging, due to its subjective nature and lack of objective data on MDD. However, adiponectin, a protein hormone, has been correlated in those with MDD. MDD patients have lower adiponectin levels compared to healthy individuals. Thus, considering adiponectin as a serological marker to guide or monitor MDD treatment with MBI may be helpful [7].

Some studies have shown intermittent MBCT with daily MBI may prove to be an effective method in decreasing the severity of symptoms and improving the quality of life in MDD patients—although favorable results have been shown with MBI as an adjunct treatment in MDD rather than as primary therapy or monotherapy [1]. Randomized controlled trials should examine MBI as a monotherapy or adjunct therapy in MDD, and in combination as MBCT—and compare MBI intervention to standard medical treatment alone.

Conclusion

Mindfulness practices have been used in various forms throughout human history to gain self-awareness and a more profound sense of connection to the human "spirit" or a creator or creative force. Western medicine is beginning to seek a scientific rationale for the application of MBI as adjunctive therapy for specific conditions. MBI may have an advantage in addressing MDD by lessening symptoms and avoiding or minimizing drugs that have adverse or addictive effects. Currently, there is no standard medical protocol or guidelines in employing MBI for medical conditions, which makes its universal and prescription-based application challenging. However for specific patients, it may be well worth a referral to a competent practitioner or center for body awareness, meditation, yoga, or prayer.

Conflict of Interest Statement

The authors declare that this paper was written in the absence of any commercial or financial relationship that could be construed as a potential conflict of interest.

Supplementary Note

Healthcare providers interested in integrating MBIs into their practices should consider the following resources:

Mindfulness-Based Stress Reduction, Professional Training-Mindfulness-Based Stress Reduction, Curriculum Guide and Supporting Materials, Integrating Mindfulness Meditation into Health Care (https://www.umassmed.edu/globalassets/center-for-mindfulness/documents/mbsr-curriculum-guide-2017.pdf.

Palouse Mindfulness, Mindfulness-Based Stress Reduction (https://palousemindfulness.com).

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