ECRONICON OPEN ACCESS

EC GASTROENTEROLOGY AND DIGESTIVE SYSTEM

Review Article

Mindfulness-Based Stress Reduction as Adjunctive Therapy in Irritable Bowel Syndrome

Abdullah Hafid[1,2] and Nicholas A Kerna[3]*

[1]*University of Science, Arts and Technology, BWI*

[2]*University of Health and Humanities, BVI*

[3]*SMC-Medical Research, Thailand*

***Corresponding Author:** Nicholas A Kerna, POB47 Phatphong, Suriwongse Road, Bangkok, Thailand 10500.
Contact: medpublab+drkerna@gmail.com.

Received: November 16, 2019; **Published:** November 29, 2019

DOI: 10.31080/ecgds.2019.06.mindfulness-based-stress-reduction-as-adjunctive-therapy-in-irritable-bowel-syndrome

Abstract

Irritable bowel syndrome (IBS) is a condition that manifests gastrointestinal disturbances and is characterized by changes in bowel habits, abdominal pain, and stomach distress with no apparent anatomical defect. The precise etiology or mechanism of IBS is unclear although multiple factors have been suggested, such as dysfunctional neuronal activity, central nervous system (CNS) abnormality, and psychological stress. Pharmacotherapy is used in moderate to severe IBS; however, the treatment results are mixed, and in many patients are disappointed. Thus, other treatment options for IBS should be considered to dimish the symptoms and reduce any long-term risks of the condition and associated medications. 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 might be helpful for specific patients in monitoring stressors and triggers in IBS and in some cases, reducing the patient's dependency on medicines with adverse effects. Although currently, there is no medically-established protocol for MBSR or MBI in the adjunct treatment of IBS, their application for specific patients is promising. Considering the side effects of drugs typically used to treat IBS and the long-term risks of the condition, MBSR should be researched further for its application or adjunct use in treating irritable bowel syndrome.

Keywords: *Adjunct Therapy; Irritable Bowel; Meditation; Mindfulness; Prayer; Rome Criteria; Yoga*

Abbreviations

ACT: Acceptance and Commitment Therapy; CAM: Complementary and Alternative Medicine; DSM-5: Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition; GI: Gastrointestinal; IBS: Irritable Bowel Syndrome; MBI: Mindfulness-Based Intervention; MBSR: Mindfulness-Based Stress Reduction; MCBT: Mindfulness-Based Cognitive-Behavioral Therapy; QoL: Quality of Life

Preface

According to Hafid and Kerna (2019), in their published review on MBSR in chronic pain: In the management of [specific] disorders, there is a need to reduce the dependency on drugs with adverse effects, and to discover and apply adjunct therapies and methods for more effective 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 proven helpful for specific patients in noting and controlling stressors and triggers

to their conditions, and in some cases, reducing their dependency on medicines with adverse effects and resulting in more effective outcomes to their treatment [1].

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. 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 [2].

Other scholars have characterized "mindfulness" as a blend of awareness and focus on fostering self-consciousness or 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 perceptions or states of being may promulgate and sustain a negative-feedback cycle, reinforcing an adverse state of mind or condition [2], such as in irritable bowel syndrome (IBS) [3].

The theoretical rationale for the application of MBSR (or MBI) is based on attention-discipline or attention-control via various methods, such as body awareness, meditation, yoga, and or prayer. MBSR can be practiced in an organized or casual setting, including instructor-led discussion, attention-centered technique, seated meditation, and yoga [1,2]. Individuals who participate in MBSR find an enhanced ability to cope with stressful situations, especially in terms of responding with adaptive strategies [1,2], which could prove particularly useful in IBS [3].

In the western world, MBSR was developed and promulgated in the late 1970s by Jon Kabat-Zinn at the University of Massachusetts Medical Center [2]. The origins of MBSR include specific cultural practices and religious beliefs. However, MBSR does not adhere to or demand specific cultural practices or religious beliefs from its users or healthcare practitioners who recommend or prescribe them.

Western medicine is gradually uncovering a scientific basis for the application of MBSR as adjunctive therapy for specific conditions, which may prove useful in treating IBS [3]. Applying MBSR as adjunctive therapy in patients afflicted with IBS [3] may have the advantage of not only ameliorating or eliminating the stressors and prompters in a patient but also in reducing or eliminating dependence on specific pharmaceutical agents that may have undesirable side effects [1,2].

Mindfulness is a form of mental conditioning or preparation to improve an individual's core psychological capacities and regulate emotions (and thus physiology). A contemporary description of "mindfulness" underscores sound and stable consciousness and focus regarding the present moment, along with nonjudgmental attention towards thoughts and feelings.

According to a National Health Interview Survey, less than 10% of the US population practices mindfulness [4]. MBSR is known to decrease stress, anxiety, and benefit specific health conditions [5]. MBSR increases concentration, insight, and awareness of the present moment, promotes relaxation, reduces stress, calms the mind, and helps achieve a state of enhanced consciousness, thereby diminishing the effect of stressors and prompters [2-4] that contribute to IBS [3]. In many regards, MBSR may help some patients manage IBS [3].

MBSR gained recognition in the early-1980s in the US. Subsequent advancement in MBSR resulted in mindfulness-based intervention (MBI). MBI utilizes psychotherapeutic methods that emphasize meditation to develop nonjudgmental awareness of present-moment thoughts and feelings [3]. In MBI, thoughts, feelings, and sensations are "tuned" to nonreactivity regarding troubling circumstances, negative thoughts, adverse health conditions, or painful experiences [4].

Adjunct (or adjunctive) therapy refers to another treatment used together with the primary treatment. Its purpose is to assist the primary treatment. Complementary and alternative treatments for IBS include hypnosis, acupuncture, cognitive-behavior therapy, and herbal medicines. Herbal medicines can have therapeutic effects and adverse events in IBS. With greater or lesser beneficial effects, herbs

and plants that have been associated with IBS include, but are not limited to: aloe vera, artichoke, *Fumaria officinalis*, *Curcuma longa*, *Hypericum perforatum* (St. John's wort), *Mentha piperita*, *Plantago psyllium* and carmint [6]. This research focuses on MBSR as adjunctive therapy in IBS. MBSR centers for healing and spiritually are a becoming familiar part of the healthcare landscape. However, for health-related matters, it is advised to use an MBSR center that has licensed medical providers and specialists on staff to provide the safest and most comprehensive treatment.

Discussion

Etiology of irritable bowel syndrome (IBS)

IBS is characterized by changes in bowel habits, abdominal pain, and stomach distress with no apparent anatomical defect [4]. IBS varies in presentation and occurrence, at times asymptomatic and other times symptomatic with no known cause or trigger. The pathophysiology of IBS has been described as ambiguous, although dysfunctional neuronal activity, central nervous system (CNS) abnormality, and psychological stress [2] have been indicated.

IBS is the most prevalent gastrointestinal functional disorder in the US [5]. IBS affects roughly 12.5% of the population, resulting in more than 30 million IBS sufferers without a known cure for their condition [7]. It has been estimated that approximately 36% of IBS patients seek some form of complementary and alternative medicine (CAM) for symptomatic relief [3].

Pros and Cons of IBS treatment

The Rome criteria is an effort to understand better, diagnose, and treat IBS; however, the sensitivity and specificity have been inconclusive as many patients with IBS do not meet the strict criteria [7]. Regarding treatment for IBS, typically, patients having mild symptoms receive education and recommendation on diet and lifestyle changes, while those patients with moderate or severe symptoms receive psychotherapy and or drug intervention [8]. Conventional medical treatment for moderate to severe IBS symptoms focuses on symptom control in the use of laxatives, antidiarrheal agents, antispasmodics, and antidepressant medications [3]. However, about 50% of conventionally-treated IBS patients report that they are not satisfied with the response to conventional treatment [3]. Eighty percent of IBS patients report mental disturbances, which include a wide range of psychiatric disorders without a predominant association to any particular DSM-5 criteria for diagnosis [5]. Conventional therapeutic intervention, focusing on pharmaceuticals, diet, and lifestyle changes, appears to have inconsistent treatment results [8].

Application of MBSR in IBS

MBSR, MBI, and mindfulness-based cognitive-behavioral therapy (MCBT) are multi-component therapies capable of diminishing the effect of numerous stressors and thus optimize therapeutic efficacy [9]. There is more to be done in the prevention and control of IBS, especially considering the inconsistent outcomes with conventional treatment, and the adverse effects of specific medications.

Physical or emotional stress can "trigger" IBS. The application of MBI in IBS might reduce IBS signs and symptoms by limiting reaction to stressors. Those with IBS who have used MBI have noted diminish hypervigilance to intestinal disturbances, reduced catastrophization in response to dynamic symptoms, and overall improved quality of life (QoL) [9].

People with IBS are absent from work three times more than their non-IBS peers [4]. IBS has emotional, cognitive, and functional factors, which nonpharmacological therapies such as cognitive-behavioral therapy (CBT), hypnotherapy, and relaxation exercises have been typically used [3]. Thus, MBI might be useful in treating or ameliorating any underlying psychological factors related to IBS [8], gaining awareness into the psychological connection to their gastrointestinal complaints, and learning how to mentally adapt to a triggering of emotions thoughts; in addition to accepting their current circumstances with a positive outlook.

QoL data in IBS show low scores, similar to conditions with high morbidity rates, such as cancer and stroke [4]. However, nonpharmacological interventions, such as CBT and hypnosis, have shown promise in specific IBS groups [8]. Also, the use of mindfulness practices, particularly acceptance and commitment therapy (ACT), seems to reduce IBS symptoms [4].

MBSR has been blended with CBT to form MBCT. Researchers have demonstrated a brain-gut connection [5]. In this regard, MBI, CBT, ACT, and MBCT appear to decrease adverse GI symptoms, although a multi-intervention approach is typically recommended [9].

Limitations of MBSR in the treatment of IBS

Much is still unknown about the psychological and pathophysiological factors in IBS. Thus, future research should consider the prompters (triggers and stressors), mechanisms, and pathways in the development and persistence of IBS and, in particular, how MBSR or MBI can lessen such. In doing so, the practice of medicine may benefit from a combined model in treating IBS, pharmacotherapy and MBI. However, precise and established guidelines for the application of MBI in the conjunct treatment of IBS is required.

The skill level of the patient is another fundamental challenge with MBI in treating IBS. However, a significant increase in mindfulness skills has been noted after beginners engage in an MBSR or MBI course [7].

Conclusion

Irritable bowel syndrome is characterized by alternating bowel habits, abdominal discomfort, and nonspecific symptoms, such as anxiety, fatigue, and irritability. IBS is the most prevalent gastrointestinal functional disorder in the US. Conventional medical treatment for moderate to severe IBS symptoms focuses on symptom control in the use of laxatives, antidiarrheal agents, antispasmodics, and antidepressant medications. However, many patients report that they are not satisfied with the response to conventional treatment with inconsistent results.

Minfulness 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 basis for the application of MBSR as adjunctive therapy for specific conditions [1]. MBSR methods may have an advantage in addressing irritable bowel syndrome and in doing so, help the patient avoid or reduce their dependency on drugs to treat their condition, some of which have undesirable side effects. Currently, there is no standard medical protocol or guidelines in applying mindfulness-based stress reduction or mindfulness-based intervention as an adjunct therapy for irritable bowel syndrome. This lack of medical protocol makes MBSR application uncertain and challenging, which will likely result in its reluctant use by patients or prescription by healthcare providers. However, more research is suggesting that for specific IBS patients, mindfulness-based stress reduction may prove helpful in managing and lessening their symptoms.

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 MBSR methods 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).

References

1. Hafid A, Kerna NA. "Adjunct Application of Mindfulness-Based Stress Reduction (MBSR) in Chronic Pain Syndrome (CPS)". *EC Neurology* 11.11 (2019): 01-03. https://www.ecronicon.com/ecne/pdf/ECNE-11-00614.pdf

2. Santorelli SF Kabat-Zinn J. "Mindfulness-Based Stress Reduction, Professional Training-Mindfulness-Based Stress Reduction, Curriculum Guide and Supporting Materials, Integrating Mindfulness Meditation into Health Care". Massachusetts: Center for Mindfulness in Medicine, Health Care, and Society, University of Massachusetts (2007). https://www.umassmed.edu/globalassets/center-for-mindfulness/documents/mbsr-curriculum-guide-2017.pdf

3. Aucoin M., *et al*. "Mindfulness-Based Therapies in the Treatment of Functional Gastrointestinal Disorders: A Meta-Analysis". *Evidence-Based Complementary and Alternative Medicine* (2014): 140724. https://www.ncbi.nlm.nih.gov/pubmed/25295066

4. Zomorrodi S., *et al*. "Long term effects of mindfulness on quality of life in irritable bowel syndrome". *Iranian Journal of Psychiatry* 10.2 (2015): 100-105. https://www.ncbi.nlm.nih.gov/pubmed/26884786

5. Zomorodi S., *et al*. "Comparison of long-term effects of cognitive-behavioral therapy versus mindfulness-based therapy on reduction of symptoms among patients suffering from irritable bowel syndrome". *Gastroenterology and Hepatology from Bed to Bench* 7 (2014): 118-124. https://www.ncbi.nlm.nih.gov/pubmed/24834303

6. Bahrami H., *et al*. "Herbal Medicines for the Management of Irritable Bowel Syndrome: A Systematic Review". *Electron Physician* 8.8 (2016): 2719-2725. https://www.ncbi.nlm.nih.gov/pubmed/27757180

7. Kearney D., *et al*. "Association of participation in a mindfulness programme with bowel symptoms, gastrointestinal symptom-specific anxiety and quality of life". *Alimentary Pharmacology and Therapeutics* 34.3 (2011): 363-373. https://www.ncbi.nlm.nih.gov/pubmed/21651595

8. Gaylord S., *et al*. "Mindfulness for irritable bowel syndrome: protocol development for a controlled clinical trial". *BMC Complementary and Alternative Medicine* 9.1 (2009): 24. https://www.ncbi.nlm.nih.gov/pubmed/19638214

9. Ballou S and Keefer L. "Psychological Interventions for Irritable Bowel Syndrome and Inflammatory Bowel Diseases". *Clinical and Translational Gastroenterology* 8.1 (2017): e214. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5288603/

Volume 6 Issue 12 December 2019
©2019 Abdullah Hafid and Nicholas A Kerna. All rights reserved.