Proposed Application of Mindfulness-Based Stress Reduction (MBSR) in Migraines in the Paediatric Population

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Abstract

In the treatment of migraines, there is a need to reduce dependency on drugs with adverse effects as well as lessen the physical symptoms in the patient. 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 in migraines and in some cases, reducing the patient's dependency on medicines with adverse effects. Although, currently, there is no medically-established protocol for mindfulness-based stress reduction (MBSR) or mindfulness-based intervention (MBI) in the treatment of pediatric migraine, the application of MBI for specific patients is promising. Considering the adverse effects of drugs typically used to treat migraines, MBSR should be researched further for its application in migraines.

Keywords: Adverse Effects; Amitriptyline; Cortisol Levels; Fibromyalgia; Meditation; Mindfulness; Opioids; Prayer; Yoga

Abbreviations

CAM: Complementary and Alternative Medicine; MBCT: Mindfulness-Based Cognitive Therapy; MBI: Mindfulness-Based Intervention; MBSR: Mindful-Based Stress Reduction; MDD: Major Depressive Disorder; 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 is proving 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].

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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, such as migraine [2].

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 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, particularly for pediatric migraine [1,2].

In the western world, MBSR was developed and promulgated in the late 1970s by Jon Kabat-Zinn at the University of Massachusetts Medical Center [4,5]. 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 pediatric migraine. Applying MBSR as adjunctive therapy in migraine patients may have the advantage of not only ameliorating or eliminating the pain experienced by the patient but also in reducing or eliminating dependence on pharmaceuti-cal agents that can have adverse effects [1].

Mindfulness is a form of mental conditioning or preparation to improve an individual’s core psychological capacities and regulate emotions. A contemporary description of “mindfulness” underscores sound and stable consciousness and focus regarding the present moment, along with nonjudgmental attention towards thoughts and feelings. Such techniques include mindfulness-based stress reduction (MBSR), and mindfulness-based cognitive therapy (MBCT), and transcendental meditation (TM) [3].

Discussion

Etiology of migraine

Headache and migraine are caused by mental and physiological changes. Primary headaches, which include migraine and tension headaches, make up 90% of all head pain [4]. Migraine is among the most common causes of disability in the world, ranking in the top-twenty causes. With a stronger prevalence in females, nearly 10% of women aged 15–44 are affected by headache [3]. According to Robertson (2019): "Migraine is a common disorder in children. Estimates indicate that 3.5–5% of all children experience recurrent headaches consistent with migraine. Management consists of identifying triggering factors, providing pain relief, and considering prophylaxis" [5].

Migraines are generally one-sided, throbbing in nature, and persist 4–72 hours. Typically, migraines are accompanied by nausea, regurgitation, and sensitivity to light and sound. Individuals who experience migraines report physical activity and movement typically worsen symptoms [4].

Pros and cons of modern migraine treatment

Migraines lack a cure, even with a wide range of treatment options available; palliative relief is the best available treatment option, to date. Current treatment options provide moderate or minimal relief, as well as unwanted side effects [6]. Conventional migraine treatments provide pain relief or prevention (of migraine episodes) but do not cure the underlying cause of the condition.

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The exact underlying cause of migraine is unknown; however, certain precipitants have been identified: caffeine, aminopyrine, phenacetin, and phenobarbital [6]. Psychotherapy has been used frequently as adjunctive therapy in migraines; however, mixed results have been reported. In a meta-analysis, MBSR demonstrated some effectiveness in the treatment of migraines [6].

**Application of MBSR in migraine**

MBSRs (or MBIs) are learned methods that assist patients in coping with pain and allowing for positive outcomes [7]. Apart from promising theory regarding MBSR applied in specific conditions, patients are required to actively engage and adhere to methods for enhanced outcomes using MBSR or MBI [8]. MBSR allows for real-time solutions that can be learned and refined over time.

MBSR is useful in various chronic, psychological conditions, including stress reduction, anxiety, nervousness, and major depressive disorder (MDD) [7,8], as well as migraine. The basis of mindfulness practices is to empower patients to manage pain and stressful situations better [7].

Healthcare providers should be aware that many patients, especially children and young adults, may require time to consider and try MBI as an adjunct to their pharmacotherapy. Thus, clinicians must be expectant and understanding regarding any initial reluctance or skepticism on the part of the patient regarding “trying out” mindfulness practices [8]. A systematic review that examined sixteen studies included twenty-one complementary and alternative (CAM) mindfulness therapies. Improvements were observed in pain severity, anxiety, mood, and quality of life (QoL) [7]. Given the opportunity for MBSR to be easily incorporated into a patient’s treatment program and lifestyle, MBI comes forth as a safe and cost-effective therapy with essentially no adverse effects. MBSR can be used as primary therapy or in conjunction with pharmacological interventions [7].

**Limitations of MBSR in the treatment of paediatric migraine**

A significant limitation in the treatment of pediatric migraines is the lack of understanding—on a pathophysiologic, mechanistic, and cellular level—of the cause or causes of such migraines. Thus, future research should consider the prompters, mechanisms, and pathways of migraine, in particular, how MBSR or MBI can interrupt them and put off or ameliorate migraine headaches in the pediatric population. In doing so, medical practice regarding migraines may progress from a pharmaceutical model to a complementary model. Precise and established guidelines for the application of MBSR in migraines are required.

**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 basis for the application of MBSR as adjunctive therapy for specific conditions [1]. MBSR methods may have an advantage in addressing migraine, in particular, pediatric migraine by discouraging the onset, lessening symptoms, and or avoiding or minimizing drugs that have adverse or addictive effects. Currently, there is no standard medical protocol or guidelines in applying mindfulness-based stress reduction or mindfulness-based intervention in the treatment of migraine. This lack of medical protocol makes MBSR application uncertain and challenging. However, for specific migraine patients, mindfulness-based stress reduction may prove helpful in reducing or eliminating the symptoms of migraine in the pediatric population.

**Conflict of Interest**

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:

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

References


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