

Adjunct Application of Mindfulness-Based Stress Reduction for Breast Cancer Patients and Survivors

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Abstract

It is estimated that by 2024 in the United States, approximately twenty million women will have breast cancer. More than twenty-five percent of female breast cancer patients develop psychiatric conditions, including mood disorder, anxiety, or depression. Breast cancer survivors commonly report exhaustion, depression, anxiety, stress, and nonrestorative sleep. 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 may be helpful for some patients in lessening specific symptoms (such as depression, anxiety, sleep abnormalities, and fatigue) in breast cancer patients and survivors, 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 breast cancer sequelae, the application of mindfulness-based therapies for specific breast cancer patients and survivors is promising.

Keywords: Adjunct Therapy; Adverse Effects; Breast Cancer; Meditation; Mindfulness; Prayer; Survivor; Yoga

Abbreviations

BC: Breast Cancer; BCS: Breast Cancer Survivor; CBT: Cognitive-Behavioral Therapy; HADS: Hospital Anxiety And Depression Scale; HPA: Hypothalamic–Pituitary–Adrenal; MBI: Mindfulness-Based Intervention; MBSR: Mindful-Based Stress Reduction; MCBT: Mindfulness-Based Cognitive Behavioral Therapy; QoL: Quality Of Life; RCT: Randomized Controlled Trial

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, breath control, 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 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 cycle of negative-feedback, reinforcing an adverse state of mind or condition [2], such as in breast cancer (BC) patients and breast cancer survivor (BCSs).

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 for BC patients and survivors.

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 helping BC patients and survivors. Applying MBSR as adjunctive therapy in BC patients and survivors may have the advantage of not only lessening stress and negative thoughts and feelings in BC patients and survivors but also in reducing or eliminating dependence on any 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 ten percent of the US population practices mindfulness [3]. MBSR is known to decrease stress, anxiety, and benefit specific health conditions [4,5]. 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 [2-5] that affect BC patients and survivors [6,7]. In many regards, MBSR may help some patients manage stress and harmful thoughts and feelings, reduce dependency on medications, and improve physical health, self-esteem, and outlook on life [6,7].

Greater than twenty-five percent of cancer patients seek some form of complementary medicine, which includes MBIs [6]. There is a growing body of research indicating stress-related psychosocial factors are associated with higher rates of mortality [7]. MBSR establishes a psychological base in a patient of nonjudgmental experience of ideas, thoughts, and feelings [6]. MBSR or MBI can be performed formally or informally using meditation, yoga (mind-body exercises), breath control and awareness, and or prayer [2,8]. MBSR is predicated upon the patient's (learned) ability to remain focused in the moment with a quiet and peaceful demeanor, regardless of what thoughts or emotions may arise [7].

Discussion

Stress and negative emotional states in breast cancer patients and survivors

BC is the second most common type of cancer across the globe. As of 2008, BC comprised nearly one-quarter of all diagnosed cancers. BCSs are the largest group of cancer survivors at just over forty percent [6]. It is estimated that by 2024 in the United States, approximately twenty million women will have BC [6].

Improvements in medicine, patient education, and general awareness have resulted in enhanced identification and treatment for BC. Despite the achievements in BC diagnosis and treatment, effective interventions to control or lessen associated negative physical, functional, and psychosocial symptoms have lagged [8]. In addition to coping with cancer symptoms and the adverse effects of treatment, BC patients must cope with the burden of the cancer diagnosis, and for many, they must do so while maintaining their daily activities and work. Within twelve months of a BC diagnosis, more than twenty-five percent of female BC patients develop a psychiatric condition, including mood disorder, anxiety, or depression [8]. BCSs commonly report exhaustion, disappointment, and nonrestorative sleep [8].

Pros and cons of the current treatment of BC-related symptoms and conditions

BC patients experience survival rates far higher than previous generations of BC women, particularly given the advancements in radiation intervention [9]. Current treatment of BC—in terms of stage and survival—are as follows: 100% in stage 0 to I, 93% in stage II, and 72% in stage III [10]. However, BC treatment carries strong side effects of the chemotherapy, surgical intervention, and radiation therapy, which are typically utilized to treat the malignancy. Subsequently, a wide range of physical and psychological conditions can develop, which results in greater longevity for BCSs but with subpar quality of life (QoL) [9,11].

Fifty percent of all cancers cause fatigue, and thirty-three percent of BC patients have significant psychological abnormalities [6]. The mental stress associated with BC is often overshadowed by the severity of the cancer diagnosis [8]. In addition to the oncological burden, BC patients typically experience mental disturbances, manifesting as pain, exhaustion, misery, and anxiety. The marital burden is another overlooked “side effect” of BC, with one-quarter of BCSs experiencing the loss of a significant-other due to the hardship and its effect on the family [10]. Thus, although BCSs are living longer, they regularly experience negative BC-associated conditions and events due to their illness or treatment [9,10].

Application of MBSR in BC-related conditions and symptoms

The types of comorbidities and associated conditions vary in BC patients and survivors. Many of them feel detached and separated. Although there has been limited research regarding MBSR application with BC patients and survivors, exercise, cognitive-behavior therapy (CBT), and MBSR have provided some relief and benefit to the patient. MBSR practice, or the development of nonjudgmental consciousness of the present moment, helps to improve emotional response to the patient’s situation [9-11].

MBI has had positive outcomes with regard to pain, stress, negative emotion, and addiction behavior. MBI has been shown to reduce the reliance on opioid intake for those addicted to narcotics [12] or pain medication. An important finding in MBI, adults who had more extended follow-up visits, appeared to have better outcomes when compared to adults with shorter follow-up visits [13].

MBSR, MBI, and mindfulness-based cognitive behavioral therapy (MCBT) are multi-component therapies capable of diminishing the effects of numerous stressors and thus optimize therapeutic efficacy [14]. There is more to be done in the prevention, control, and lessening of sequelae of BC in patients and survivors, also considering the side effects of specific medications.

It has been established that prolonged states of stress can have a significant adverse effect on the hypothalamic-pituitary–adrenal axis (HPA) axis [15], and subsequently alter mood in BC patients and survivors. BC patients regularly complain of physical and mental symptoms that inhibit their ability to perform activities of daily living [8]. MBSR has been effective in BCSs in lessening the feelings of

discouragement, nervousness, and stress and improving QoL [10]. Those who use MBSR experience more benefits in terms of lessening of psychological symptoms compared to those patients who do not use MBSR—regarding fewer negative symptoms and greater functional capabilities [8].

Various methods have been employed in clinical practice to “objectify” symptoms in specific psychological conditions. The Hospital Anxiety and Depression Scale (HADS) is a standard tool used by clinicians and researchers to monitor and study changes in patient treatment and response. Many research studies commonly use HAD questionnaires to measure outcomes of BC with MBSR and MBI [8]. Long-term QoL studies support preventative utilization of yoga therapy [16].

There has been a newfound appreciation regarding self-improvement and change in those who have experienced BC. MBI may be a convenient aid for moments of suffering and difficulty, in easing stress and providing relief. MBSR has been shown to reduce stress and improve mood in BC patients [7]. More randomized controlled trials (RCTs) are investigating MBSR utilization in BC patients and survivors, using laboratory testing, questionnaires, and clinical follow-up to measure psychological and biological responses. Data have shown that depression and mood disorders are less prevalent in MBSR users than in those who do not use MBSR [8].

The most utilized mindfulness practices in BC are MBSR and MBCT [6]. Since 2007, research regarding MBSR and MBI in BC has averaged twenty-four RCTs yearly, primarily measuring the physical and psychosocial health benefits of mindfulness techniques [15]. MBSR has readily shown to lessen the negative psychological and physical symptoms associated with BC. Researchers have reported significant beneficial outcomes with MBSR when incorporated into treatment plans, in lessening of depression, anxiety, sleep abnormalities, and fatigue [11].

Limitations of MBSR in breast cancer patients and survivors

Much is still unknown regarding how to lessen the sequelae of BC in patients and survivors. Thus, future research should consider the prompters, mechanisms, and pathways in the development of such sequelae and, in particular, how MBSR or MBI can interact to affect such beneficially. In doing so, the practice of medicine may benefit from a complementary model in treating BC patients and survivors with appropriate pharmacotherapy and MBSR, MBI, and MBCT. However, precise and established guidelines for the application of MBSR is needed.

There is a lack of availability of comprehensible results on mindfulness research in BC, and many study findings are not composed in the English language, limiting the literature to examine. However, from the English language data available, it is clear that BCs experience a lower QoL compared to those who never experienced cancer [9], and mindfulness practices can help improve QoL in BCs [9].

Conclusion

Breast cancer is the second most common type of cancer in the world. In addition to the severe diagnosis, BC patients and survivors must cope with a myriad of physical and psychological comorbidities, such as depression, anxiety, sleep abnormalities, and fatigue. 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 specific sequelae, symptoms, and side effects, and in doing so, help the patient avoid or reduce their dependency on drugs to treat their condition, some of which have adverse or 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 breast cancer patients or survivors. 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, research has shown that for specific breast cancer patients and survivors, mindfulness-based stress reduction may prove helpful in managing and lessening their breast cancer-related conditions and help reduce dependency on medicines with adverse effects.

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.

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