Efficacy of Mindfulness Based Stress Reduction (MBSR) : A Brief Overview

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ABSTRACT

Mindfulness has surged popularity over decades and its applicability has been seen across a wide range of physical illness as well as psychiatric disorders specially anxiety and depression. The basic principle behind mindfulness practice is that it helps the individual alter their relationship with traumatic or painful thoughts and emotions. Mindfulness-Based Stress Reduction (MBSR) is a form of practice and training for individuals with psychological and emotional due to life events, physical conditions, physical pain and reduce stress and anxiety symptoms, negative feelings improve general mental health and functioning. It has been seen to be beneficial in promoting recovery beyond the acute treatment of a disorder. It can be used to promote well-being amongst participants. This review aims to define meditation and mindfulness and provide an overview of development of MBSR across psychiatric disorders and integrates researches across them and also to elucidate specific ways MBSR may be helpful and avenues for future research.

Keywords: Meditation, Mindfulness, Stress Reduction, Efficacy, Mental Health

INTRODUCTION

Mindfulness-based stress reduction (MBSR) is a program that incorporates mindfulness to assist people with pain and a range of conditions and life issues that were initially difficult to treat in a hospital setting (Pickert, 2014). It was developed by Jon Kabat-Zinn in 1970s at the University of Massachusetts Medical Center, it is an amalgamation of mindfulness meditation, body awareness, and yoga to help people become more mindful. The recent years have seen meditation as the subject of controlled clinical research suggesting that it may have beneficial effects such as stress reduction, relaxation and improvements in quality of life however it does not help to prevent or cure disease.

The recent years have seen an increasing interest of clinicians and researchers in the application of meditation approaches in the management of physical illness and psychiatric disorders therefore mindfulness and interventions based on it have become the focus of considerable attention. Meditation can be categorized as concentration meditation and awareness meditation also known as mindfulness meditation. Concentration meditation includes Transcendental meditation which is the most studied form of meditation. In this kind of meditation practice an individual is asked to focus on a single object such as breath, a mantra or visual image (Kabat-Zinn, 1982; Baer, 2003). Any other thing apart from this is categorized as distraction and attention should be brought back to the single object (Baer, 2003). However, unlike transcendental meditation, awareness meditation or mindfulness meditation does not consider anything to be a distraction. The individual focuses the mind on breath and observes how attention wanders from the focal point. It encourages nonjudgmental observation. If any judgmental thought arises the mindfulness principles state just observing it (Kabat-Zinn, 1982). All the thoughts are treated with equal importance and never ignored. Both these ways may look similar however, mindfulness meditation practice is less restrictive than concentrative meditation as it includes all of one’s experience.
The origin of Mindfulness-based interventions can be traced back to India’s most ancient meditative technique - Vipassana. Vipassana being a Pali word is formed of two words- Vi, which means 'special', and passana, which means, 'to see, to observe' together meaning to see or observe in a special way. It is a form of self-awareness training adopted from the ancient Buddhist meditation. It is also known as insight meditation and is an ancient practice originally driven from Theravada Buddhism (Gunaratana, 2002). Often called as “the heart” of Buddhist meditation (Thera, 1962), it has been prevalent in India since it was discovered by Gautama Buddha at the time of his Supreme Enlightenment at Gaya, Bihar (Ahir, 1999).

In the earliest teachings Buddha detailed the practice’s instructions for mindfulness as: the Anapanasati Sutra (Rosenberg, 1998) and the Satipatthana Sutra (Smith, 1999).

The concept behind this practice is the Buddhist notion that all psychological suffering is a result of a judgmental mind, categorizing experiences and events into good and bad which could have been accordingly approached leading to distress, anxiety, frustration and depression (Nyklièek & Kuijpers, 2008).

It is a skill and like learning any skill requires a good amount of practice, mindfulness requires daily practice to develop a mindful mental orientation towards daily events leading to an enhanced mental flexibility and a clarity in one’s life to make them skilled to face life’s challenges. (Davis, Fleming, Bonus & Baker, 2007)

Mindfulness has been described as a process of experiencing every moment of life without becoming judgemental. In this practice a person intentionally pays full attention to events around them without judgment and is required to remain psychologically present ‘with’ whatever happens in and around one, without reacting to it in any way. In this way the practice of mindfulness meditation enables the person to respond consciously and reflectively, rather than react automatically to internal or external events.

In modern psychology mindfulness interventions have been adopted for responding with a skillful increased awareness to mental processes that contribute to emotional distress and maladaptive behavior. Meditation is considered to be one of the three self-regulatory strategies that are effective in the management of anxiety.

(II) Practice of Mindfulness Based Stress Reduction (MBSR):

Kabat-Zinn (1982) developed the Mindfulness-Based Stress Reduction (MBSR) program, which is a clinical program to facilitate adaptation to medical illness. MBSR consists of eight to ten weekly sessions and follows a skill-based, educational format. It includes formal and informal meditation practice, as well as hatha yoga. The formal practice includes breath-focused attention, body scan resulting inattention to the transient nature of sensory experience, shifting attention in sensory modalities, open monitoring of moment-to-moment experiences, walking meditation, and eating meditation. The informal practice includes brief pauses involving shifting of attention to present moment awareness. Together both these practices aim to enhance the ability to observe the content of experience specifically the transient nature of thoughts, emotion and physical sensations. There are two specific forms of non-conceptual and non-elaborative meditation practices that are introduced in MBSR:

(a) object-based focused attention i.e. sensations induced during breathing, selective attention in the present moment with knowledge of quality of attention, and

(b) open monitoring i.e. using attention as a basic observation or monitoring of the present moment in any experience such as thought, emotion or physical sensation without any explicit focus on an object

However, there are no explicit instructions about how to change nature of thinking, or how to handle emotional reactivity, MBSR still has been shown how to diminish the habitual tendency to react emotionally and to ruminate about transitory thoughts and physical sensations and discomforts; reduce stress and anxiety;
modify maladaptive patterns of self-view); strengthen immune functioning; encourage behavioral self-regulation; and improve selective attention.

(III) MBSR and Mindfulness Based Cognitive Therapy (MBCT):

Mindfulness-based cognitive therapy (MBCT) is a manualized intervention that combines elements of Cognitive-Behavioral Therapy along with Mindfulness Based Stress Reduction into an 8-session treatment plan to enable patients to learn skills that prevent the recurrence of depression.

MBSR has been an inspiration for Mindfulness-Based Cognitive Therapy (MBCT). Initially this intervention was designed for relapse prevention in people with recurrent depression. However, it has been applied to various psychiatric conditions in contemporary psychological interventions. It educates people to learn to become more aware of their bodily sensations, thoughts, and feelings associated with recurrence or depressive relapse and to associate constructively to these experiences. The treatment plan focuses on promoting patients to adopt a novel way of being and associating to their thoughts and feelings, while placing little or no emphasis on challenging or altering specific cognitions.

(IV) Mechanism Behind Mindfulness Interventions:

For understanding mechanism of any technique its basics should be known. Similarly, for mindfulness based Stress Reduction are its ABCs where ‘A’ stands for Awareness which works as the foundation emphasizes on cultivating body awareness. Body scan is usually taught in the first phase where one has to pay close attention systematically to all parts of the body. Within a few moments it can be seen that the mind gets caught up in something else. In this the basic instruction usually is to notice when the mind wanders and to understand the habitual patterns of the mind. In this way the mind also learns to step out of being away away by distractions. ‘B’ stands for being with the experience. After building on the foundation of awareness and noting the mind going off and returning back the next step is to learn adapting to difficult experiences with an attitude of acceptance. ‘C’ stands for making wise choices. After developing an attitude of acceptance with persistent painful experiences one can easily learn to make a wise choice about how to address those experiences. Addressing difficult thought and emotions is an essential aspect of Mindfulness based interventions. Whenever one faces difficult experiences the first reaction is to escape from them or avoid them for ie. Using substances to escape from situations or getting over involved in the experiences forie. Depressive ruminations such as ‘What is wrong with me?’ Mindfulness based stress reduction helps by making an individual face those unwanted experiences and avoiding dual responses of ‘escaping’ or ‘over-involvement’.

(V) Uses and Benefits of MBSR:

The life style of present society as well as modern society usually becomes hectic, busy and stressful. Therefore, the Practice of MBSR becomes need of hour. The Benefits of MBSR include: Improved quality of life, reduced tension, fear, frustration, better coping with life stressors, improved sleep, and reduced risk of relapse of depression. These benefits can be grouped under following headings:-

(a) Attentional control and managing ruminations: MBSR helps in retarding the cycle of ruminations by helping the participant indulge in thought regulation which is simply observing emotions in a reflective way rather than reactive way hereby enhancing attentional control of participants. In a regression analysis, authors found a significant association between the amount of individual MBM practice and decreased levels of rumination (Praissman, 2008).

(b) Mood clarity: As stated above regular practice of MBSR encourages patients to reflect on their emotions, in this way it also alters metacognitive processes. As it is known metacognitive adaptation is a pre-requisite of self-regulation it thereby enhances emotional intelligence as well.
(c) Cognitive change: MBSR principles point that our thoughts are transient, short lived and not a true reflection of reality. The MBSR program teaches the participants that just because one has a particular thought doesn’t hold the thought true such as “I am exhausted all the time”. Participants practicing MBSR develop non-judgmental acceptance of negative thoughts.

(d) Exposure: Kabat-Zinn (2003) stated that motivating participants to pay attention to discomfort and pain sensations in body to may lead to desensitization. As ‘body scan’- a prime technique of MBSR, promotes awareness and acknowledgement of bodily sensation to equip participants with a reflective style of coping. Therefore, in this way MBSR works as a form of exposure therapy thereby teaching participants to accept negative stimuli without hyper-emotional response and improving tolerability of the discomfort.

(e) Control: Sitting meditation is a technique that is used to promote control in the participant. In this the participant remains in one position for a period of time and resists the urge to alter the posture. This instills in the participant a sense of physical control on their symptoms.

The amalgamation of Hatha Yoga into MBSR has also proven to be effective in giving participants a greater authority over their bodies, in this way it serves to challenge irrational thoughts and maladaptive schemas in patients with significant distress due to somatic disorders (Hamilton, Kitzman & Guyotte, 2006).

(f) Acceptance: Participants undergoing mindfulness practice are motivated to adopt an enduring attitude to accept maladaptive thoughts, pain, presence of an illness and disability in a reflective rather than a reactive manner. This way allows participants to focus on their abilities and not disabilities. It also empowers the participants to reflect on transient nature of health and become aware of anxieties associated to morbidity and mortality. (Hamilton, Kitzman & Guyotte, 2006).

(e) Relaxation: Relaxation effect of hatha yoga is reported to reduce muscle tension and has been seen to help individuals with chronic pain. A lot of studies have also reported the clear benefit of yoga for rheumatic and musculoskeletal conditions (Garfinkel et al., 1994; Greendale et al., 2002).

(VI) Research evidence and efficacy of MBSR: The recent time have seen a shift in the interest of researchers from efficacy based research to process based research in the area of mindfulness. Researches have suggested that mindfulness cultivated during MBSR and MBCT leads to a decrease in ruminative thinking by switching emotional processing modes by intentional redeployment of attention, dysfunctional beliefs, and significantly increases meta-cognitive awareness with respect to negative thoughts and feelings. A plethora of qualitative studies have identified areas of therapeutic change such as an attitude of acceptance without judgment, development of mindfulness skills and ‘living in the moment’, awareness and ‘coming to terms’ with situations and events. It has been observed that there was a positive change in levels of acceptance and changes in participant’s way of perceiving and feeling, and in their relation with the others. Mindfulness has been seen to be positively associated with greater psychological well-being and spiritual experience. The various researches have pointed out to five major themes namely opening to change, self-control, shared experience, personal growth, and spirituality.

It is known that psychiatric disorders particularly psychosomatic disorders are an interplay of mind and body where biological, psychological, sociocultural factors play important role. Hereditary, environment, upbringing and personal interpretations of events, as well as the coping capacity for the events that arise as the person develops, interacts and plays an important role when confronted with a psychosomatic manifestation. When a person undergoes a stressful event there is an appraisal of the stressor as innocuous, a danger, or a challenge. This appraisal then results in a perception that is often highly individualistic and influenced by gender. A lot of other variables such as socioeconomic status or ethnicity also influence the way in which
people perceive and experience relationships, formulate their morals, and construct a sense of self. A number of intervention methods have been examined in India and abroad in treating the psychiatric disorders.

Meditation techniques have been seen to reduce alcohol consumption and have resulted in increased physical activities. Hypnosis and modern hypnotherapy, classical hypnotherapy, stress management and relaxation interventions, biofeedback, yoga and other alternative therapy, nutritional and diet supplements etc. are showing effective in treating psychosomatic disorder. In contemporary scenario mindfulness meditations such as Mindfulness Based Stress Reduction (MBSR), Mindfulness Based Cognitive Therapy (MBCT), Acceptance and Commitment Therapy and Dialectical Behavior Therapy have been found effective in a wide range of disorders. These interventions have been applied to a wide range of stress related conditions, physical conditions, and emotional disorders and have been found to be efficacious. More than 200 medical centers across the world offer MBSR as an auxiliary treatment option to patients (Niazi & Niazi, 2011). They concluded that MBSR practice leads to a reduction in stress, anxiety and depression.

MBSR helps the people in adapting to the daily treatment needs and managing the psychosocial issues associated with chronic illness that is challenging and stressful for patients. It has been observed that research on mindfulness in India is in its initial stage and there is only limited work examining the efficacy of this therapy (Sharma, 2002). Therefore, further research should be conducted on larger Indian samples and follow-up studies should be taken to establish the efficacy of these interventions. Let us take a look at few studies:

(a) Mood and Anxiety Disorders

A major part of research in MBSR has its focus on anxiety and mood disorders. In a meta-analysis conducted by Hofmann et al. (2010) to assess the effect size of Mindfulness Based Therapies in reducing depressive and anxiety symptoms in patients with psychiatric and medical conditions it was observed that MBT had moderate effect on reducing depressive and anxiety symptoms across all patient groups. However, it proved to be more efficacious in reducing depressive and anxiety symptoms in patients with depression and anxiety. Chiesa and Serretti (2011) conducted a study to assess the effectiveness of MBCT in psychiatric disorders. They concluded that MBCT plus treatment as usual (TAU) was significantly better than alone TAU in prevention of relapses amongst patients with major depressive disorder having at least three relapses in the past. It improved symptomatology and quality of life outcomes in patients with major depressive disorder. Their finding also concluded that MBCT along with gradual discontinuation of antidepressants was not significantly different in terms of relapse rate at one year as compared with continuation of maintenance antidepressants. This finding was supported by a subsequent study conducted by Kukyen et al. (2010) which found that in depressive patients MBCT offers protection against relapse equal to that of maintenance antidepressants.

Piet and Hougaard et al. (2010) in their recent meta-analysis of six randomized controlled trials to assess the effectiveness of MBCT in prevention of relapse in recurrent major depressive disorder had similar findings as that of Chiesa and Serreti (2011) that is MBCT proves to be effective intervention for relapse prevention in patients with recurrent major depression in remission having three or more previous episodes. It is noteworthy that while the while the evidence suggests that MBCT is effective for reducing depressive relapses among remitted depressed patients with a history of three or more depressive episodes, it is not effective among patients with two previous episodes, suggesting that these groups actually represent two distinct populations of patients.

Studies on individuals with Generalized anxiety disorder have found MBT improves anxiety and depressive symptoms in this group; however, there were significant differences in the rate of recovery between these studies (Craigie et al., 2008). In another randomized trial conducted by Koszycki et al. (2007) to see how well MBSR is compared to Cognitive Behavior
Group Therapy (CBGT) for individuals with social anxiety disorder found that while MBSR was comparable to CBGT in improving mood, functionality and quality of life, it was not as effective as CBGT in reducing core symptoms of social anxiety and response and remission rates.

Miklowitz and Williams et al. (2009), found decreased depression and anxiety symptoms in remitted patients with bipolar disorder following MBCT. However, Weber et al., (2010) applied MBCT in remitted patients with bipolar disorder and found that overall, there were no significant improvements in mindfulness, depression and hypomania between the beginning and end of the MBCT programme.

Deckerbach et al. (2011) in their study noted that non-remitted bipolar patients who received MBCT had residual depressive mood symptom, improved mindfulness and adaptive psycho social functioning at the end of treatment, as well as at three-month follow-up.

It has been seen that MBSR improves the quality of life and reduces anxiety, depression and stress symptoms in younger cardiac patients (Parswani, 2013). The effectiveness of brief mindfulness technique such as sitting meditation, body scan and hatha yoga has been seen on systolic blood pressure among Chinese nursing students (Chen et al., 2012). Its effectiveness was also examined in reduction of the symptoms of anxiety and stress among female undergraduate students (Call et al., 2013). It was found to be effective in reducing anxiety and stress as body scan exercise involves progressively moving one’s attention through the entire body along with nonjudgmental awareness of feeling and sensation in each part of the body.

This intervention has also shown significant improvements in attention problems, behavioral problems and anxiety symptoms were also seen among children age range from 9 to 13 years (Semple et al., 2009). These results were maintained during the course of follow-up.

Mindfulness based Cognitive Therapy (MBCT) has been found to be effective in generalized anxiety disorder (GAD) as patients reported a significant decrease in their anxiety, tension, worry and depressive symptoms (Roemer & Orsillo, 2007).

MBCT has also been found to reduce depression and anxiety during a natural anticipated stressor such as exam period in a non-clinical sample of university students (Kaviani, 2011).

It has also been shown to help the elderly adapt to age-related physical and psychological changes. Its regular practice has been reported to ameliorate stress by providing an individual with a strong sense of self, enhancing resilience (Davis et al., 2007).

A significant improvement and difference was noted in the symptoms of Obsessive compulsive disorder and panic disorder using Mindfulness Integrated Cognitive Therapy (MICT) as highlighted by Kaur and Sharma (2016). Follow-up sessions have shown stable and continued improvement after treatment. Integrated cognitive behavior therapy has also been used with detached mindfulness and family-based treatment in a case of adolescent Obsessive Compulsive Therapy with predominantly obsessions. MBCT has been found to be effective in reducing the severity of symptoms in obsessive-compulsive symptoms including obsessions and thought-action-fusion also improving mindfulness skills and quality of life in adolescents with OCD (Rukmini et al., 2016).

(c) Pain

Since the 1970s MBSR has been seen to manage chronic pain as highlighted by Kabat-Zinn (2003). A study in Manitoba conducted by Carlson et al. (2003) has shown that MBSR in primary care setting with chronic pain patients has shown a decline in intensity of pain, psychological distress, disability, willingness in life activities, acceptance of pain and subjective rating of current pain. A few other studies conducted by the founder of MBSR in patients with chronic pain (Kabat-Zinn, et al., 1982, 1985, 1987). The results suggested some relief in pain however self-reported pain did increase following completion of MBSR in some cases but did not
return to pre interventional levels. A significant decrease in psychological distress was also reported and also the benefit was maintained over an extensive follow up period of 4 years. Zatura et al. (2001), carried out a study of patients with rheumatoid arthritis who participated in MBSR programme and achieved the understanding of one's mood and emotions had better clinical outcomes. Another study in fibromyalgia patients by Kaplan et al. 1993 also reported that there was a significant reduction (39%) in psychological distress however lack of control group in the study points to methodological limitations (Bishop, 2002).

(d) Cancer

Huang et al. 2003 conducted a study where patients suffering with early breast and prostate cancer participated in MBSR which resulted in increased quality of life and decreased experiences of stress. It was also noted by Carlson et al that participation in MBSR positively affected the immune system of cancer resulting in a decrease in disease related cytokine production. Another study by Khoury et al. (2015), a meta-analysis has shown significant improvements in depression, confidence, stress and anxiety in breast cancer patients. The role of this practice has also been seen to reduce the pain as well as increase quality of life and mental health in terminal cancer patients (Tsang et al., 2012).

Mindfulness-Based Stress Reduction has been supported across several and clinical populations such as depression, relapsing depression, cancer, anxiety disorders, anxiety, worry and rumination, psoriasis, chronic pain, eating disorders, smoking, and attention-deficit hyperactivity disorder, diabetes mellitus, hypertension, human immunodeficiency virus (HIV) infected adults, fibromyalgia.

(e) Coronary Heart Disease

In a study conducted by Nehra et al. in 2012, it was observed that Depression, Anxiety and Perceived Stress are prevalent in patients suffering from Coronary Heart Disease in the patient's pre intervention level and reduced significantly post intervention level. These changes were observed only in the experimental group of study whereas control group showed no significant change. Thus, the result clearly implies that MBSR effectively reduced depression, anxiety, perceived stress in CHD patients.

Few pilot studies have used mindfulness meditation as the integral therapeutic component in management of CHD and results of these studies are very encouraging and highlight the role of MBSR practice (Nehra, 2012). Research on the evaluation of specific effects of MBSR program in patients with CHD is in an initial stage further studies are required in this domain (Nehra, 2012).

Nowadays interest in clinical application of mindfulness has increased by the presence of a manualized treatment program originally developed for the management of chronic pain i.e. Mindfulness-Based Stress Reduction (MBSR). Studies have shown that majority of participants who have undergone mindfulness-based treatment practice have shown significant reductions in both psychological and physical symptoms (Kabat-Zinn, 1982).

Neuroimaging studies of MBSR have also provided sufficient evidence of reduced narrative and conceptual and increased experiential and sensory self-focus at post-MBSR and decreased conceptual linguistic self-referential processing from pre- to post-MBSR (Farb, 2007).

CONCLUSION

Mindfulness is bringing attention to one’s experience of the present moment without judgment or attachment to outcomes. It encourages individuals to make changes in their association with their thoughts, feelings and bodily responses. These interventions help the individuals to skillfully adapt to unpleasant thoughts, feelings, situations and events. The skillful change acquired helps the individual bring a meaningful change to the whole Scenario. Though there is considerable evidence for the efficacy of mindfulness-based interventions in variety medical and psychological conditions however there is still a long way to go. The above findings highlight the
need for further research especially randomized control trials needed in order to determine a causal relation between MBSR interventions and psychiatric disorders. Mindfulness practice in everyday life appears to benefit all those that practice it.

REFERENCES


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