

A Theoretical Understanding of the Role of Mindfulness in Stress Among Cancer Patients

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Abstract

Being diagnosed with cancer leads to series of stressful experience for the patients. As individual varies in their susceptibility for stress related physiological and psychological problems, its clearer that when confronted with a chronic dilemma like cancer, how people perceive the symptoms and associated life changes makes all the difference. Mindfulness helps individuals shift their focus to the present and non-judgmentally accept as it comes; and have a sense of control of their self and external experience. That is why the idea of mindfulness works better and efficiently for cancer patients, and that is the reason why psychological interventions like Mindfulness based therapies should be implemented for complementing the conventional treatment regimes.

Keywords: Cancer, mindfulness, interventions, stress, distress

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As a chronic disease, being diagnosed with cancer puts an individual in a least expected condition where everything suddenly starts to get less adjustable and unpredictable, be it in terms of one's health, job or relationship or be it the internal rollercoaster that goes so unexpected. Further the debilitating health conditions both due to symptoms and treatment, adds to the psychological, social and financial uncertainties of both the patient and the caretaker's stress.

Defining Stress and Distress

Seelert et al. (1999) defined distress as an unpleasant psychological state caused by different factors and that range from mild to severe. Distress in cancer has been defined as “a multifactorial unpleasant experience of a psychological (i.e., cognitive, behavioral, emotional), social, spiritual, and/or physical nature that may interfere with the ability to cope effectively with cancer, its physical symptoms, and its treatment. Distress extends along a continuum, ranging from common normal feelings of vulnerability, sadness, and fears to problems that can become disabling, such as depression, anxiety, panic, social isolation, and existential and spiritual crisis.” (NCCN, 2019).

According to Moberg (2000), stress can be chronic or acute, based on sufficient changes in one's biological mechanisms and overwhelming demand for coping resources. Stress can be defined as a process where the organism's adaptive capacity is subdued by environmental demands, leading to physiological and psychological discomforts and even place at risk for illness (Cohen et al, 1995).

According to Transactional theory of stress (Lazarus & Folkman, 1987), individuals constantly appraise the environmental stimuli they encounter with. In response to this primary appraisal of whether they perceived the stimuli as favorable or not, secondary appraisal follows that is, whether one has sufficient coping resources to meet the demands of the stressors. If the demands tax one's coping capacity, it leads to stress. If there are sufficient resources, they

overcome the stressful situation. Thus, according to this model, stress is a response to stimuli which is appraised as harmful, negative and challenging, as well as beyond one's capacity to cope with it.

Hypothalamic-Pituitary axis and ANS being important component of stress response, any dysregulation in their normal functioning can negatively affect body homeostasis, including metabolism, immunity etc. Hence the pervasiveness of being under stress for a long time, (like that of a cancer patient) disrupts one's general health and wellbeing.

Stress in Cancer

Beginning from the Existential plight that a cancer patient experience, a long cascade of stressors makes life bitter for them. Weisman and Worden (1976), explained 'existential plight as an experience cancer patient goes through first hundred days of cancer diagnosis.

From physical to emotional, psychological, financial and social – several layers of life flip to an unexpected side. Including Physical symptoms, body image issues, financial problems, issues in relationships, and even the fear of recurrence etc are all part of this experience.

Those living with and beyond cancer must overcome numerous challenges and deal with symptoms, life changes, and concerns about the future due to the chronic nature of the disease and its constant, complicated psychological and physical stressors. Interventions that improve stress management and the symptoms it causes as well as those that encourage relaxation are therefore warranted. Mind-body therapies are popularly sought of by many, so that it will complement the conventional medical treatments. One among them is the Mindfulness based interventions.

Mindfulness

Mindfulness, basically can be defined as "moment-by-moment awareness", or can also be defined as "keeping one's consciousness alive to the present reality" (Hahn, 1976). The concept of Mindfulness has its roots in ancient Buddhist Philosophy. In Buddhist perspective "mindfulness means awareness, openness, and acceptance of whatever arises, without attachment to pleasant, aversion to the unpleasant, or forgetfulness of natural

feelings.” (Goldstein and Kornfield, 2001). From an intervention point of view, Mindfulness has been defined as “Paying attention in a particular way: on purpose, in the present moment, and nonjudgmentally.” (Kabat-Zinn, 2005).

Even though the idea of Mindfulness originated as a part of ethical and moral dimensions of its religious principles, in recent times the core underlying concept of its rich therapeutic value has been identified and incorporated into several psychotherapeutic modalities. The idea of focus on the present and nonevaluative acceptance in mindfulness, thus can be assumed to have intrinsic value in boosting positive mental health as it can cut into the intrusive thoughts that is often disruptive.

The use of mindfulness-based therapy practices has grown in popularity as a means of reducing stress, managing chronic pain, treating anxiety and depression, etc. Clinical trial meta-analyses and systematic reviews show that mindfulness-based therapies are effective for a variety of diseases. (Chiesa & Serretti, 2011; Hunot, et al., 2013; Keng, Smoski, & Robins, 2011; Sedlmeier et al., 2012).

As Jon Kabat-Zinn (1982), designed a stress reduction technique out of principles of Buddhism, that is mindfulness- it was tailor made for the consumers of modern medical practice. However, at its core, Mindfulness based stress reduction method, mostly focused on changing the person's attitude towards illness rather than symptom reduction.

When some theories of Mindfulness understand it as a trait characteristic (dispositional), some others conceive it as a state of consciousness, which can be achieved through practice and meditation. (Davidson, 2010; Rappagay & Bystrisky, 2009). Hence, either way, perceiving and integration of the idea of mindfulness to one's life becomes beneficial.

Mindfulness Based Interventions and Distress in Cancer

Chronic pain is one of the major issues cancer patients encounter. Often, they get pharmaceutical treatment to deal with them. Although they are effective, there can be several side effects and also can be addictive in the long run. To address psychological issues including

depression, anxiety, stress, and other issues, mindfulness meditation is advised because it is necessary to improve the quality of life for patients as well. With respect to pain management, mindful meditation enhances the ability to withdraw one's attention from unpleasant pain stimulations and negative cognitive judgements about it. As the focus is shifted their pain tolerance is enhanced (Brown & Jones, 2010).

Moreover, as mindful meditation can be continued throughout all the phases of illness, treatment, recovery and even at the terminal stage, it provides them with an internal locus of control amidst the uncertainties, feeling of helplessness and loss of control. It empowers their sense of being in control of what they experience as they are able to consciously direct their attention to present- moment experience. While in the state of mindful meditation, Kabat -Zinn (2005) explains that, the individual could experience life at its fullness, and feel every bit of emotional and sensory experience. However, the technique teaches not to control the unfavourable and unpleasant one, but to accept and non- judgementally allow each and every feeling and thought to float by, be it pleasant and stressful.

Mindfulness based Cancer recovery (MBCR) is another such intervention programme, carried out in groups, where cancer patients are trained for mindful meditation and simple body movements based on hatha yoga (Carlson & Speca, 2011). Through interactive sessions, this group is also educated about stress, stress management, mind-body relationship, cognitive appraisal, and certain breathing and relaxation techniques. Furthermore, MBCR is also found to be effective for patients who is undergoing chemotherapy and one who has finished it (Carlson et al., 2013, 2016).

Integrating modalities of Art therapy and MBSR another therapeutic technique named Mindfulness based Art therapy (MBAT) was developed. Here the expressive and supportive group aspect of the therapy provides patient for self-expression and deeper inner self exploration and meanwhile understand others through interactions. While Art therapy aspect adds to expression of conscious and unconscious experiences nonverbally, supportive group aspect

reduces the social isolation and nurture connectedness.

Mindfulness: As an Antidote to Stress

As aforementioned, the overactivation of stress response, disrupts our physiological homeostasis. However, Mindfulness tries to interrupt the stress response and act as a buffer. As the cognitive appraisal stems from our understanding of the 'past' experiences or apprehensions about the 'future', giving a twist to it by focusing on the present without evaluating the stimuli(stressor), the individual can break free from the detrimental effects of stress that could have been. Therefore, it is crucial that patients seek out mindfulness-based therapy after becoming aware of what, besides the presence of illness, is genuinely causing them distress.

Review of Literature

A 40% estimate of cancer patients suffer substantial distress, according to data compiled from several research. Disability, Poorer QoL, unmet psychosocial needs were found to be the major predictors of distress in patients diagnosed with different cancer types(Carlson et al., 2012). Distress in Cancer patients have physical and psychological implications like pain, nausea, anxiety, depression (Breitbart and Payne,1998;Massie and Popkin,1998; McDaniel et al.,1995) and sleepdisturbances (Shapiro et al., 2003).

Further, a large proportion of the cancer patients has to endure chemotherapy related side effects, which often seem to be more disabling than that of the symptoms. The side effects, which can negatively affect a patient's quality of life (QoL), include exhaustion, discomfort, nausea, vomiting, sleep disturbances, and cognitive issues like memory loss and concentration issues, sometimes known as "chemo brain" or "brain fog (Brandão et al., 2017; Carlson et al., 2013; Janelson et al., 2017; Schmits et al., 2016).

Chemotherapy (CT)put the person's immune system at risk, which paves way for heightened susceptibility for infections, and even any delay the next CTs and affects the therapy as a whole.

Under chronic stress, physiological state of 'overdrive', that continues for a long time adversely affects the body and its organ systems (McEwen,1998). Several research findings show

that chronic stress has a general immunosuppressive effect on the body (Hafen et al., 1991; Huebner, 1992).

Similarly, a study conducted by Azar (1999) shows that stress level and tumour development and Natural Killer (NK) cells- a type of white blood cells, has significant relationship. NK cells, of all the immune system cells, fights against certain forms of disease, like prevents metastasis and destroying small metastasis. Although the study is not definitive, stress responses often inhibit NK cell production and thereby affects immunity of the patient against the progress of disease.

In a number of clinical and empirical studies, it was found that growth, progression and metastasis of tumour has significant correlation with stress, anxiety, depression, dearth of social support, subpar coping behaviours and various other psychological and behavioural abnormalities (Lillberg et al., 2003; Price et al., 2001; Spiegel & Giese-Davis, 2003). Another study has shown similar results that chronic stress is linked with heightened inflammatory activity (Maydych, 2019).

Similarly, in a recent study conducted by Bränström et al., (2013), significant reduction in stress hormone- cortisol was evident as a result of MBSR intervention given. This shows that Mindfulness based therapies can have impact on HPA axis.

According to a study, MBSR appears to be a useful intervention for improving the quality of sleep in breast cancer patients who have trouble sleeping because of stress (Shapiro et al., 2003). Similar findings were made by Lengacher et al. (2012) who discovered that while MBSR has been successful in other areas of life as well, while it moderately reduces fatigue and sleep problems.

MBSR especially body scan Meditation was found to be effective for patients with terminal cancer, in a quasi-experimental study conducted by Tsang et al., (2012).

MBSR was found to be beneficial in lowering mood disturbance and stress-related symptoms for up to 6 months in both male and female patients with diverse cancer types, stages,

and other demographic backgrounds, like age and educational status (Carlson et al., 2001)

Result of review article shows positive effect of MBSR on follow up care.

Presumably, the increased self-awareness and control of self in concentrating attention on even minute bodily changes can be brought by mindfulness training. So that the patients become much more prudent and at the same time less worried and less reactive, to any negative changes that appear.

Henderson et al. (2012) found that for early-stage breast cancer patients, MBSR was useful for strengthening acceptance of emotional states, reducing some distressing feelings such as despair, alienation, and hostility, promoting improved coping mechanisms and emotional regulation competence, and facilitating growth in sense of purpose and spirituality related to oneself, health, and factors of risk.

A study on Indian Head and neck cancer patients indicated that mindfulness-based therapies are useful for cancer patients who have anxiety and depression, despite the fact that the symptoms of anxiety and depression overlap with the effects psychological distress has (Pandey et al., 2006).

In a randomized controlled study conducted on palliative cancer patients (Ng et al, 2016), it was found that 5 minute mindful breathing can have enduring reduction in perceived stress and associated physiological responses.

The benefits of MBSR and other mindfulness-based therapies are outlined in various

reviews and meta-analyses with regard to anxiety, mood disturbance, stress, and QoL in cancer survivors (Carlson, 2016; Haller et al., 2017). Previous studies of MBCR have demonstrated positive reductions in tiredness (Carlson & Garland, 2005). Furthermore, sleep quality, duration and insomnia severity etc has been shown to be significantly improved due to MBCR interventions (Garland et al., 2013).

Further, to add, a study conducted (Carlson et al., 2019) on Colorectal cancer patients has found that if MBCR delivered online during chemotherapy reduces post- Chemotherapy fatigue significantly and also affects secondary symptoms, which suggest the potential effectiveness of providing MBCR intervention for cancer patients undergoing chemotherapy.

Another study conducted on Prostate cancer patients (Kennedy, 2003) shows that MBAT intervention brings a sense of control in patients in holding their understanding of the illness as it is and modify the way they relate to different aspects of experiences. This goal is fulfilled through learning self-awareness and express one's thoughts and emotions creatively, and by improving self-acceptance through verbal or nonverbal interaction with the group.

In a study conducted on rural south Indian cancer patients (Thomas et al., 2014), it was found that irrespective demographic details, mindfulness-based counselling showed efficacious results over stress responses.

In cancer patients, dispositional mindfulness was found related to improved psychological functioning and overall lessened distress (Garland et al., 2013).

In a nutshell, Mindfulness based interventions like MBSR, MBCR, MBAT and Mindfulness meditation and dispositional mindfulness evidently shows its effectiveness in reducing stress, anxiety, depression, sleep disturbances and other cancer related physical discomforts like, nausea, pain, fatigue etc, contributing to the distress reduction in cancer population across different cultures, gender and sociodemographic variables.

Conclusion

The diagnosis of cancer irrespective of stage of occurrence, or intensity of symptoms is found to be a stressful experience. As Distress in cancer, has both physical and psychological manifestation in the patient, the deleterious effect of being under chronic stress have to be considered as a serious issue. Exposure to chronic stress adversely affects one's immune system, as well as found to have an influence on progression of inflammatory response in cancer patients. Besides the physiological effects of stress, studies have also been showing the negative psychological implications like loss of control, anxiety, depression and insomnia etc. Hence, Mindfulness based psychological interventions warrants a greater role to play in stress reduction, and thereby managing the associated clinical implications. Mindfulness, which is rooted in Buddhist philosophy of "moment-by-moment awareness", it teaches the patient to be non-judgemental towards the unpleasant stimulus and accept every experience as it is, instead of distracting one's thoughts from an unpleasant stimulus.

The core principle of Mindfulness, when integrated to the concept of stress, its (mindfulness) role as buffer or as antidote against distress in cancer becomes evident. As individual varies in their susceptibility for stress related physiological and psychological problems, it's clearer that when confronted with a chronic dilemma like cancer, how people perceive the symptoms and associated life changes makes all the difference. That is why the idea of mindfulness works better and efficiently for cancer patients, and that is the reason why psychological interventions like Mindfulness based therapies should be implemented for complementing the conventional treatment regimes. Beyond all these therapeutic contexts of mindfulness, the essence of practicing mindfulness can be all encompassing regarding one's existence in health and wellbeing.

Even though, there is no side effects reported yet, the effectiveness of Mindfulness

based techniques like MBSR , MBCR, MBAT and Mindfulness meditation on reducing distress and the mediating role of dispositional mindfulness in perceiving stress in cancer patients have to be pondered through further research , which should also be considering the influence of cultural difference in making the practice of mindfulness efficient in a particular population and the impact durability of the intervention provided.

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