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Study Mindfulness-Based Interventions Effectiveness on Depression for Cancer Patients

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Abstract- Addressing a patient with a cancer, the result will be nothing but depression which covers him/her thoroughly. A hopelessness that is just for a cancer patient. This paper presents how mindfulness - based interventions effect on cancer patients, and presents the psychological benefits to them.

Materials and Methods: This is a pre-test, post- test experimental paper included a control group. The paper was begun with mindfulness-based interventions and the mechanism of someone's thought. The statistical universe contained all patients who came to Kashmar Modarres Hospital. The sample group consisted of 30 patients, selected according to paper goals or available. They were divided in an experimental, and in a control group (each group consisted of 15 patients).

Beck's depression scale was done as a pre-test. No meaningful difference between these two groups was reported. Then mindfulness-based training was done for experimental group, while the control group received no training. The mentioned test was redone.

Results: The co-variation analysis showed that observed difference between the averages of depression, scores according their belonging to control or experimental group were 99% meaningful. (P<001) .

Conclusion: All we found as the results were paralleled to similar researches: mindfulness-based interventions can reduce the level of depression for cancer patients.

Keywords- *Mindfulness, Depression, Cancer*

I. INTRODUCTION

Today cancer is one of the most important health problems all over the world, and if its prevalence continues increasingly as now, according to UN, s prediction 1/5 of population will be cancerous in near future. There is no exception for Iranians too. Cancer is considered as the second reason for death after cardio vascular disease in the USA and the third in Iran [1].

DNA cells start growing unusually and unnaturally, that's why the cancer occurred, then covers all body system. But the most crucial factors which cause cancer are:

smoking, drinking, alcohol, lack of exercise, having few amounts of fruits and fresh vegetable, dangerous sexual relationship, air pollution, using fossil fuel to make the home warm, and dirty injection.

Cancer makes various changes and pressure on patients' own life besides the family members.

Patients, reaction to cancer depends on his/her personality, psychological structure, family, residence, capability, body deformity, and other factors caused by cancer which effect on all patients, activities[2].

Depression considered as a chief cancer side effect, which appears a few while after it. This reaction to cancer is very harmful, since the patient will regress, and sometimes there will be no motivation to live longer or follow the treatment procedure to enhance life quality. Depression enfeebles body's immune system, and then lets the cancer cells to grow faster.

Depression is in contrary to hope. A hopeful person strives to accept the new body feature, new life situation, and limitation caused by cancer, with less anxiety.

Adler believes that human's reaction to the world is based on his interpretation of problems, and his talents. This interpretation directs him to choose a strategy [3].

II. THE IMPORTANCE AND NECESSITY OF RESEARCH

Cancer is the disease of this century and unfortunately the disease of the next decade in Iran. It means in 15 years later the death number caused by cancer will be 3 times more than now, in other words 80000 cancer patients are adding (every day 105 person are dying with cancer)[4].

Then it is very necessary to do some researches to find ways which are concerned about this critical situation. The aim of this review is to describe and synthesize the evidence that mindfulness-based interventions offer psychological benefit for

cancer patients. In order to fully meet this objective, the review sought to answer the following questions: 1. for whom is mindfulness helpful? 2. Does it matter how the mindfulness intervention is packaged? 3. What kinds of benefits can mindfulness offer to cancer patients?

III. MINDFULNESS-BASED INTERVENTIONS

The term mindfulness has been described by Bishop et al. (2004) as: "a nonelaborative, nonjudgemental, present-centred awareness in which each thought, feeling, or sensation that arises in the attentional field is acknowledged and accepted as it is". The first psychological intervention to incorporate training in mindfulness was Jon Kabat-Zinn's Mindfulness-Based Stress Reduction (MBSR) program began in 1979 in Massachusetts. This program aims to train participants to approach their experiences with an attitude of mindfulness through formal meditation exercises, both in weekly classes and in daily home practice guided by audiotapes or CDs. Each meditation suggests a focal point for attention, such as the breath, sensations in the body, or sensory experiences such as sight or sound, any of which can help to anchor attention to the present moment. The original MBSR programme was designed for patients with chronic pain or stress related physical disorders [5].

There are certainly practical difficulties in offering psychosocial interventions to patients undergoing high intensity treatments that suppress the immune system and sap both physical strength and the capacity for concentration. In an attempt to overcome this challenge, a recent pilot study assessed the feasibility of offering a mindfulness-based intervention aimed at reducing symptoms of anxiety and depression to patients undergoing cancer [6].

Focusing attention on the present moment, with a gentle curiosity and non-judgemental acceptance of all aspects of experience, is thought to interrupt brooding on past events and worry about the future, and is incompatible with maladaptive avoidance behaviours. There are a number of reasons why such an approach might be helpful to someone undergoing cancer. For example, strong physical sensations such as pain might be less overwhelming if, instead of trying to analyse the meaning of the pain, or worrying about how long it can be tolerated, it is experienced directly as sensations that change from moment to moment[6] .

Similarly, distressing thoughts, such as subjective interpretations of body sensations or attempts to predict the future, can lose their power if they are experienced as transient phenomena and not as direct representations of truth. Interventions that aim to engender greater mindfulness incorporate regular experiential practice of mindfulness meditation exercises during classes and at home, alongside a psychoeducation element that is usually tailored to the client group [7]. Mindfulness-based interventions have been shown to have benefits for a number of clinical populations (Grossman, Niemann, Schmidt& Walach, 2004; Hofmann, Sawyer, Witt, & Oh, 2010), including those suffering with anxiety, (Kabat-Zinn et al., 1992), depression (Ma & Teasdale, 2004), chronic pain (Shigaki, Glass, & Schopp, 2006), and cancer patients (Foley et al., 2010; Ledesma & Kumano, 2009) [8].

Although mindfulness-based interventions are usually offered in a group setting, Bauer-Wu et al. (2008) adapted Kabat-Zinn's (1990) Mindfulness-Based Stress Reduction (MBSR) programm for delivery to hospitalized SCT patients in an individualized format. The intervention involved one-to-one sessions with an instructor once or twice weekly and a 17-minute guided practice CD which participants were encouraged to listen to daily. The first session with the instructor happened before admission to hospital and the intervention continued throughout hospitalization. Mindfulness shows new dimensions of relation between mind and body, so psychological and medical researches has been increasingly improved these days.

IV. RESEARCH METHODOLOGY

This is a practical experimental like research with pre-test, post- test accompany with a control group. Statistical universe in this paper is all cancer patients who came to Kashmar Modares Hospital .The sample group contains 30 cancer patients, have been chosen randomly. The 19 females were from 23 to 53 and 11males from 27 to 68.patients were divided in two groups (each contains 15 patients) according odd and even numbers. Then the society was given Beck's Depression scale and the result was analyzed by SPSS software.

V. FINDINDS

In terms of analysis it was done in descriptive analysis and inferential analysis. In descriptive analysis factors as mean, standard deviation and presentation and in inferential analysis co-variation were used. A comparison between Experimental post-test depression mean score and control group shows a noticeable decreasing in Experimental post-test depression score.

TABLE I. PRE-TEST AND POST-TEST MEAN AND DEVIATION FOR EXPERIMENTAL AND CONTROL GROUP

post-test		Pre-test			test / groups	
Standard deviation	mean	Standard deviation	mean	Patients		
4/92	11/73	10/88	22/26	15	experimental	depression
4/77	22/13	5/6	20/60	15	control	

In second table ANCOVA results contain of sum of squares (SS), means of squares (MS), digress of freedom (DF), levels of signification (P), and eta squares (N) were used to show the effectiveness of Mindfulness in decreasing the signs of depression for cancer patients.

TABLE II. A BRIEF OF ANCOVA FOR SHOWING MINDFULNESS-BASED INTERVENTIONS ON DECREASING DEPRESSION FOR CANCER PATIENTS

N	p	f	ms	df	ss	Changing source
0/51	0/000	29/17	342/08	1	342/08	Pre-test depression scores
0/74	0/000	77/65	910/57	1	910/57	training

ANCOVA shows that mindfulness training s effected on post-test depression scores ,on the other hand the table shows that the differences between participant's depression mean scores for experimental-control groups according to group membership in post-test is 99 percent meaningful.($p<0/01$). The effectiveness of these interventions was 0/74.

VI. DISCUSION

Before starting this research, the researcher studied some interventions done by others and found that a notable feature of the body of literature on mindfulness-based interventions for cancer patients is the lack of well controlled studies with rigorous methodologies. Only eight studies had Uncontrolled pilot studies are a useful, inexpensive precursor to larger scale research, but there is a danger in publishing so many studies without comparison groups that the body of literature starts to look impressive on the basis of its quantity, not its quality. Equally concerning is the strength of conclusions that some authors made when interpreting their findings from uncontrolled studies [9].

A further criticism is that specific outcome measures were rarely given explicit justification in relation to the purported mechanisms of mindfulness-based interventions. A particular case inn and point is the Profile of Mood States: it is not clear why a measure of transient mood states would be expected to change as a result of mindfulness training, which is not intended to help people to feel less emotion but to develop a different relationship to emotions[10].

This issue is related to a lack of clear rationale for why mindfulness-based interventions might be expected to be of benefit to cancer patients No studies offered a true long-term picture of the continuing effects of mindfulness-based interventions: amongst studies that made longitudinal at follow-up. Keeping a control group waiting for an intervention is clearly an ethical issue, but one which must be weighed against the ethical issue of involving patients in research that is not sufficiently rigorous to answer important questions about the lasting effectiveness of the intervention. The validity of measuring mindfulness through self-report questionnaires has been questioned [11], partly because of the complexity and ambiguity of the mindfulness construct itself. For example, Grossman argues that since different mindfulness scales are often poorly correlated with each other, they perhaps measure different constructs. Furthermore, Grossman cites evidence that respondents inexperienced in mindfulness meditation practice have a different understanding of scale items from those with mindfulness experience. In the absence of a consensus on how mindfulness should be operationalized, attempts to assess the impact of mindfulness-based interventions on mindfulness skills are inherently difficult to interpret. Perhaps this is why few researchers included measures of mindfulness in their studies of effectiveness, and why those that did presented a mixed picture [9].

VII. STRENGHT AND LIMITATION

The conclusions on outcomes broadly tally with those made by Ledesma and Kumano (2009) [12], in their meta-analytic review of mindfulness-based interventions. However, strength of the narrative approach adopted in the current review is that it afforded greater opportunity to examine more complex issues regarding participant and intervention variables, as well as to make more subtle distinctions between different outcome measures. This synthesis therefore provides greater scope for deriving implications for clinicians, purchasers and researchers. By structuring the synthesis in terms of the kinds of questions that might be important to clinicians, the review focused primarily on the priorities for clinical practice rather than intellectual understanding for its own sake.

An important limitation of the review is the possibility of publication bias, since no attempts were made to include unpublished studies. A second limitation is that the review was conducted by a single researcher and might therefore be open to greater bias in interpretation than if data were extracted by more than one researcher and opinions shared on quality.

VIII. CONCLUSION

The review tentatively concludes that mindfulness-based interventions might have a positive impact on the psychological wellbeing of cancer patients in terms of reducing emotional distress and in according to type of cancer, recency of diagnosis, or whether or not participants are in active treatment. The mechanisms of change by which the interventions deliver these benefits are, however, far from clear. This is at odds with research on a non-cancer sample which found that time spent practicing mindfulness outside of classes was significantly related to improvements in psychological functioning mediated by increases in mindfulness [12]. Evidence of an impact on physical symptoms such as pain and sleep was lacking, and the bias in the literature towards women with a high level of education raises the question of how narrow the accessibility and appeal of mindfulness-based interventions might be.

At present there is little evidence to distinguish between efficacies of mindfulness-based interventions in its various manifestations (MBSR, MBCT, and MBAT) [13]. Questions remain as to what would constitute a minimum 'dose' of mindfulness, or how much training and experience is required to teach it effectively.

Implications for clinical practice for clinicians, this review suggests that mindfulness-based interventions might be a useful and appealing intervention for some cancer patients,

whether in active treatment or in remission. The most easily accessible is Kabat-Zinn's (1990) MBSR programme, but Foley et al.'s (2010) adapted MBCT program might be more suitable for patients with higher levels of depression.

In practical and economic terms, MBAT has a default disadvantage because of the extra training needed to deliver it.

Further research on the level of training and experience required for effective delivery of mindfulness-based interventions is important because of the relatively high demands from authors at present and the implications this has for access to these interventions.

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