

The Effectiveness of Mindfulness-Based Cognitive Therapy in Improving Adaptive Behaviors, Quality of Life, and Self-Efficiency of Students with Mild Depression

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Submitted: 21 December 2019

Accepted: 12 February 2020

Int J Behav Sci. 2020; 13(4): 142-146

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Abstract

Introduction: The purpose of this paper was to determine the effectiveness of Mindfulness-Based Cognitive Therapy (MBCT) on improving adaptive behaviors, quality of life, and the self-efficiency of students with mild depression.

Method: This clinical trial study included two experimental and control groups, with pre-test and post-test. Thirty students who lived in Tehran were studied in 2018 and were randomly divided into two groups including experimental and control groups (n=15 person per group). The World Health Organization Quality of Life (WHO-QOL-BREF), Beck Depression, Scherer's Self-efficiency, and Vineland Adaptive Behavior questionnaires were used to collect information in this study. The participants of the experimental group received MBCT sessions and the control group received no interventions. The pre-test and post-test were conducted in both groups. Data was analyzed by using SPSS 22 software.

Results: The results showed that 24.2%, 50.2%, and 55.6% of personal differences according to an impact factor in the post-test scores of adaptive behaviors, quality of life, and the self-efficiency of students with mild depression was related to the effects of MBCT and significance levels were higher than 0.05. ($p < 0.05$)

Conclusion: According to the findings of the present study it can be concluded that MBCT is effective in improving the adaptive behaviors, quality of life and self-efficiency of students with mild depression.

Keywords: Cognitive Therapy, Mindfulness, Adaptive Behaviors, quality of life, Self-efficiency, Depression.

Introduction

Depression is one of the most common psychiatric diseases among the prevalent mental disorders in communities. In general, depression is associated with mood change, the symptoms of which include a depressive or irritable mood and lack of interest and pleasure. Depression is a mental illness that causes continuous sadness and a loss of interest [1].

When young students enter new environments, they will likely be subjected to various pressures, including cultural shocks. This mental pressure might underline various abnormalities in people. Epidemiologic data in different countries suggested different prevalence of depression among different societies. Studies have revealed that the amount of clinical depression in Iran is higher than other countries [2,3], indicating the need for further planning in this regard more than ever. The first step in performing the necessary planning is to determine the effective factors in improving depressive symptoms [4].

Luckasson described adaptive behavior in this way: "The degree of an effective behavior that helps people reach the standard of self-sufficiency, social, group, and cultural responsibilities of their age" [5]. People who aren't able to communicate properly due to

mental and cognitive problems suffer from severe delays in social interactions and therefore experience the lack of social adaptation. This, in turn, causes other problems for individuals, families, and as a result, societies. Proper communication with others is one factor that can influence mental and cognitive functions and its improvement leads to an improvement in social adaptation [6]. Also, mental and cognitive problems can affect one's quality of life [7]. Quality of life is linked to various factors, such as self-concept, family relationships, the effects of stress and adaptation, physical and mental health and self-efficiency [8]. The meaning of self-efficiency according to Bandura's theory is to have a sense of competence, efficiency and ability to cope with life. Bandura et al. believe that a sense of self-efficiency forms as a result of challenges to tolerate and behave successively, step by step [9].

In psychological studies, mindfulness is a status intent on promoting self-awareness that is thought to improve the quality of life [10]. Mindfulness means being in the moment with everything existing without judgment or contemplation on what will happen in the future. In other words, mindfulness is experiencing reality without consideration of explanations [2]. The principles of cognitive therapy and mindfulness framework are integrated together in this method to improve emotional well-being and mental health. The main objective of MBCT, according to the mindfulness-based stress reduction program developed by Jon Kabat-Zinn, is to help people revise relationships with their thoughts, feelings and bodily sensations [11]. Mindfulness activates an area of the brain that results in positive emotions and has useful effects on immunity functions of the body. It is believed that mindfulness training affects depression, stress and psychological adaptability of patients [12].

The MBCT showed a high effectiveness in reducing the recurrence of depression [13, 14]. This is because mindfulness is considered as a method of being, or a way of understanding, which makes the mind more positive, elastic and flexible while also improving the capacity of the mind to cope with stress and problems in a healthy and constructive manner [15]. Practices in regards to mindfulness helps people discover deeper states of relaxation and vitality in everything they do by changing their brain structure and protecting them against stressor factors [16, 17]. While most psychological problems result from focusing on the past or worrying about the future, mindfulness is a skill that allows an individual to have a non-judgmental focus on the present and releases them from mental ruminations about past events or worries about the

future [18]. Grow stated that MBCT prevents depression and also increases the patient's ability to control sad feelings and thoughts. In MBCT, patients learn how to prevent useless thoughts and feelings and instead focus on their body and nature. Studies indicate the effect of MBCT on the improvement of stress in patients in an experimental group [19, 20, 21].

Practices of MBCT by increasing an individual's knowledge affects the cognitive system and data processing by focusing on the body and awareness. As a result, this training has been recommended for the prevention of obsessive-compulsive disorders and to increase the quality of life [22].

Therefore, the aim of this study was to investigate the effectiveness of MBCT on the improvement of adaptive behaviors, quality of life, and the self-efficiency of the students with mild depression.

Abdinia showed in a study that there is a significant correlation between self-efficiency, students' academic achievement and self-regulated learning strategies. Furthermore, there is a meaningful relationship between self-regulated learning strategies and internal goal-setting [23]. Jahanian suggested in a study that self-efficiency had a significant correlation with internal goal-setting, cognitive and metacognitive strategies, and self-regulation of the students [24]. Bandura believed that self-efficiency is the main and most important precondition for behavior change and of a healthy behavior [25] that can be influenced by several factors. The MBCT is one of many mindfulness-based therapies and is a part of the "third wave" of cognitive therapies.

Different studies have revealed that MBCT, increases the quality of life and marital satisfaction and also decreases depression [26, 27, 28, 29].

Method

This clinical trial study with two experimental and control groups, with a pre-test and post-test. Thirty students who lived in Tehran were studied in 2018 and were randomly divided into two groups including experimental and control groups (n=15 person per group). The World Health Organization Quality of Life (WHO-QOL-BREF), Beck Depression, Scherer's Self-efficiency, and Vineland Adaptive Behavior questionnaires were used to collect information in this study. The participants of the experimental group received MBCT sessions (Table 1) and the control group received no intervention. Pre-test and post-test were conducted in both groups. Data was analyzed by SPSS 22 software.

Table 1. Mindfulness-Based Cognitive Therapy Sessions

Mindfulness-Based Cognitive Therapy (MBCT)- eight weeks	
The subject for the first four sessions	Learning to focus and to do daily activities with mindfulness; understanding the wandering mind; controlling the wandering mind with practicing over the body; using deep relaxation or meditation methods; Breathing mindfulness exercises.
The subject for the second four sessions	Continued exercise of previous activities; full awareness and acceptance of thoughts and feelings; mood and thought change; consciousness of the symptoms of depression; planning and performance of specific tasks.
At the end of each session	An in-depth relaxation book-tape is given to each participant to use in or between the sessions so as to practice deep relaxation.

The mean age of the participants was 20 years, 100% were female. Most (84%) of the participants were studying full-time.

The tools used in this study are as follows:

Beck Depression Inventory:

This scale was used in order to evaluate depression. The signs of the test were divided into three groups: sensational and emotional signs (1 question), motivational and cognitive signs (2 questions), and physical and vegetative signs (6 questions). A validity of 70% and reliability of 77% have been achieved recently in a study performed at the Tehran University of Medical Science, Roozbeh Hospital [29]. The following scores can be applied in order to show overall levels of depression: 0-13: the lowest level of depression; 14-19: mild depression; 20-28: moderate depression; 29-63: severe depression.

Short Form of the World Health Organization Quality of Life (WHO-QOL-BREF):

This scale was used to measure quality of life, using 16 questions and measuring four aspects of each person's life: (1) physical health, (2) psychological health, (3) social relationships, and (4) social environment. Nasiri et al. translated this scale and reported its validity and reliability [30].

The Self-Efficiency Scale [31]:

This scale was used to assess the efficiency of the study population. This scale includes 23 questions in which the reliability coefficient was 86% and 71% by using Cronbach's alpha method for the subscale of general self-efficiency and social self-efficiency, respectively.

The Vineland Adaptive Behavior Scale:

This scale which contains 8 fields: public self-help,

self-help in eating, self-help in wearing, self-direction, pastime, mobility, communication and socialization, is used to measure the adaptive behaviors of the study group. The scale of Vineland Adaptive Behavior was tested on 620 men and women in various age groups (from birth to 30 years old) with a reported reliability coefficient of 92%.

It should be noted that the trained students were analyzed after 30 days. Covariance analysis with SPSS22 software was used to analyze the study data.

Results

According to the results of Table 2, the significance levels of the variables are higher than the error level of 0.05. Therefore, all variables are normally distributed (Table 2).

Mindfulness-Based Cognitive Therapy is effective in improving the adaptive behaviors, quality of life and self-efficiency of students with mild depression. The default use of covariance analysis is to ensure homogenous variance among communities. The Levine test was used to examine the homogeneity of variances among communities.

According to the results of Table 3, the significance levels are higher than 0.05. Therefore, the null hypothesis, the varying homogeneity of students' adaptive behaviors, quality of life and self-efficiency score, were confirmed in the two groups with error levels of 0.05 ($p < 0.05$) (Table 3).

According to Table 4, results showed that 24.2%, 50.2%, and 55.6% of personal differences according to an impact factor in the post-test scores of adaptive behaviors, quality of life, and the self-efficiency of students with mild depression is related to the effects of MBCT.

Table 2. The Results of a Data Normal-distribution Test

	Variable	Kolmogorov-Smirnov		
		Statistics	Significant	
Adaptive Behavior	Pre-test	Control	1.347	0.053
		Experiment	1.229	0.091
	Post-test	Control	1.308	0.063
		Experiment	1.351	0.051
Quality of Life	Pre-test	Control	1.2	0.094
		Experiment	1.318	0.062
	Post-test	Control	0.772	0.59
		Experiment	1.301	0.079
Self-Efficiency	Pre-test	Control	1.101	1.102
		Experiment	1.247	0.089
	Post-test	Control	1.143	0.099
		Experiment	0.812	0.541

Table 3. The Homogeneity Test of Control and Experimental Groups' Variances for the Level of Post-test Adaptive Behaviors, Quality of Life and Self-Efficiency

	Statistics of (F) test	Numerator's (df1) degree of freedom	Denominator's (df2) degree of freedom	Significant level (sig)
Adaptive Behaviors	0.719	1	28	0.404
Self-Efficiency	3.401	1	28	0.076
Quality of Life	1.838	1	28	0.186

Table 4. The results of the Covariance Analysis of Post-test Mean Score about Adaptive Behaviors, Quality of Life and Self-Efficiency Compared between Experimental and Control Groups

	Source of change	Sum of squares	Degree of freedom	Squares mean	Statistics of (F) test	Significance (Sig)	Beta square
Adaptive Behaviors	y-Intercept	81.227	1	81.227	8.508	0.0001	0.240
	Pre-test	409.758	1	409.758	42.919	0.0001	0.614
	Grouping	82.484	1	82.484	8.640	0.007	0.242
	Error	257.775	27	9.547			
	Sum	98474.750	30				
Quality of Life	y-Intercept	76.923	1	76.923	17.140	0.0001	0.388
	Pre-test	271.758	1	271.758	60.553	0.0001	0.692
	Grouping	122.268	1	122.268	27.243	0.0001	0.502
	Error	121.175	27	4.488			
	Sum	91720.000	30				
Self-Efficiency	y-Intercept	9.681	1	9.681	2.891	0.0001	0.097
	Pre-test	390.250	1	390.250	116.535	0.0001	0.812
	Grouping	113.279	1	113.279	33.827	0.0001	0.556
	Error	90.417	27	3.349			
	Sum	101873.000	30				

Discussion

The findings regarding the effectiveness of MBCT on improving adaptive behaviors of students with mild depression showed that there is a significant difference between the post-test mean score of adaptive behaviors in control and experimental groups. In other words, MBCT could affect and increase 'adaptive behaviors' of students with mild depression. To explain these findings, it can be said that knowledge and lessons resulting from MBCT made people choose daily activities and behaviors more carefully, as well as spending their time doing activities which cause emotional development [32]. In addition, they learn to interact and participate with others more effectively. Moreover, MBCT builds self-esteem and, as a result, persuades the growth of self-confidence to gain personal merits and to upgrade their skills and abilities. An additional result of MBCT is increased social skills, making them behave more responsibly. In addition, they may also obtain other capabilities, such as the development of problem-solving skills, interpersonal relationships, decision-making and social growth, further improving adaptive behaviors [33].

The findings regarding the effectiveness of MBCT on the improvement of the quality of life of the students with mild depression showed a significant difference between post-test mean scores regarding quality of life in the control and experimental groups. In other words, MBCT could affect and increase the 'quality of life' of students with mild depression [22]. Actually, MBCT increased the quality of life in the experimental group according to the post-test quality of life's mean score in students with mild depression which was higher than the mean score in the control group. To explain these results, it can be said that the knowledge and lessons resulting from MBCT helped people to have a better understanding of health, physical health, mental health and environment health, as well as paying more attention to various health aspects and adopting some effective preventative measures. As a result, the students also understand the meaning of life better by means of the knowledge gained and thus enjoy life more [23]. This, in part, can help develop positive social relationships gradually while eliminating negative

ones. It should be noted that the management of social relationships also helps students enjoy the supports of friends and acquaintances, improving their quality of life when combined with all of these factors [24].

The findings of this study regarding the effectiveness of MBCT on the improvement of the self-efficiency of students with mild depression showed a significant difference between the post-test mean score of self-efficiency in the control and experimental groups [34]. In other words, MBCT was found to be able to affect the 'self-efficiency' of students with mild depression and, thereafter, increase it. Actually, MBCT increased the self-efficiency of the experimental group according to the post-test self-efficiency's mean score in students with mild depression which was higher than the mean score in the control group. To explain these findings, it can be said that the knowledge and lessons resulting from MBCT makes people understand the importance and necessity of planning academic, business and daily affairs and to prioritize the important activities [35]. In addition, it helps people develop better plans and develop better time management. They learn that the key to success is not only not to fail, but is also to give more effort in case of failure and further achieve success by learning from such experiences (especially failures), with persisting with a hopeful continuous effort [36, 37]. It should be noted that strengthening the spirit of knowledge acquisition and learning new things is one of the important factors in MBCT which must be considered in all cases in order to improve self-efficiency. Therefore, it can be said that MBCT is effective in improving the self-efficiency of students with mild depression [38].

Conclusion

According to the findings of the present study it can be concluded that MBCT is effective in improving the adaptive behaviors, quality of life and self-efficiency of students with mild depression.

Acknowledgement

The authors would like to thank all the students who participated in this research. Certainly, without their help, this study could not have been accomplished.

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