ARTICLE

THE EFFECTIVENESS OF ACCEPTANCE AND COMMITMENT THERAPY ON PSYCHOLOGICAL WELL-BEING IN WOMEN WITH MS

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ABSTRACT

Introduction: *Acceptance and commitment therapy (ACT) is a third generation behavior therapy in treatment of mood and anxiety disorders. The purpose of this study was to investigate the effectiveness of acceptance and commitment therapy on psychological well-being in women with MS.* ***Method:*** *In this study which was a Quasi-Experimental with pre-test, post-test and control group, the sample group was selected by available sampling method from patients referred to the Kermanshah MS association. Therefore, 30 female subjects were chosen randomly and assigned to two control & experimental groups (each with 15 subjects). To assess the severity of psychological well-being, psychological well-being short form Reef was used respectively in pre-test. The experimental group experienced the treatment based on acceptance and commitment therapy in eight; two hours sessions and the control group did not receive any treatment. These questionnaires again conducted on both group in post-test.* ***Results:*** *The results showed that psychological well-being scores of experimental group significantly increased and in one-month fallow up did not significantly differ. So, treatment based on the acceptance and commitment therapy caused significant changes in the treatment of psychological well-being in women with MS.* ***Conclusion:*** *According to the findings, acceptance and commitment therapy is efficacious on increase of psychological well-being of multiple sclerosis patients. So it can be applied as useful method of intervention for improving psychological symptoms in patients with Multiple Sclerosis.*

KEY WORDS
Acceptance and Commitment Therapy, Psychological Well-being, MS

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INTRODUCTION

Multiple sclerosis, also known as MS, is an autoimmune, inflammatory, chronic and progressive disease that is characterized by demyelinating neurological damages in the white matter of the brain, spinal cord, and optic nerves [28]. It is both one of the most common neurological diseases among human beings and the most debilitating illness among the youth [13]. In 2011, the National Multiple Sclerosis Society announced that more than 2.1 million people were suffering from this disease worldwide (Moss-Morris& et al, 2012). Moreover, MS is relatively common in Iran, where its incidence, in spite of the lower statistics for Asians (3-5 cases per 100,000), is around 15-30 cases per 100,000 people [26].According to the Iranian Multiple Sclerosis Society, there are approximately 40,000 patients in the country, of which 9,000 cases have been registered, and this number still keeps growing [1].

This disease, like any other autoimmune illnesses, is more prevalent among women, and its incidence is twice as high among females as males [10]. The risk of developing MS is higher in the 20-40 age range, and its diagnosis is based on MRI studies [6]. In addition, the most vulnerable age for MS is the 20-40 age range at which women of childbearing age are with the most familial and social responsibilities [7].As a result, the disease can damage the productive forces of society, and everyone is affected by this illness. Furthermore, the empirical literature on MS patients point towards the high levels of depression, distress, anxiety, poor mental health, low quality of life (QOL), and problems with social roles and relations [18].In addition to being the result of the direct effects of inflammation and destruction of the nerve sheath, these psychological symptoms may ensue from disabilities and psychosocial issues resulting from a chronic debilitating illness with unknown etiology and unpredictable re lap secourses [14].Therefore, since the research shows that the psychological factors are often better predictors of the differences in coping with the disease compared to other factors such as neurological disabilities, severity of symptoms and the duration of the disease, etc. [18], taking the psychological components of the disease into account and taking interventions in this regard can play crucial roles in one's adaptation to one's physical condition.

Due to the vital roles that the psychological well-being plays in various mental-social and even physical aspects of one's life, numerous studies have been conducted about well-being and its components. Some scholars consider the psychological well-being the equivalent of happiness and emotional interaction with others [24]. Additionally, based on Ryff and Keyes' pattern of psychological well-being, this construct comprises the six components of purpose in life, positive relations, personal growth, self-acceptance, autonomy, and environmental mastery. From this perspective, the health index is not defined as 'lacking the disease,' so that one's well-being rather than sickness is emphasized[25].The debilitating nature of multiple sclerosis, affecting one's personal, social, occupational, physical and mental life, is important from the viewpoints of both the patient due to the serious concerns about the disease and specialists and researchers who are still overwhelmed by the theoretical and practical ambiguities and failures regarding understanding this disease, especially its etiology, prevention, prognosis and treatment. Hence, the identification of programs in the form of training interventions towards improving the psychological well-

being of these patients seems essential. So, the present study aimed to investigate the effectiveness of acceptance and commitment therapy (ACT) on the psychological well-being of women with MS.

MATERIALS AND METHODS

The present study also followed a pretest-posttest design with experimental and control groups, and the statistical population comprised all MS-stricken women residing in Kermanshah, Iran. Moreover, the simple random sampling was employed to select the MS-stricken subjects [15] in each of the experimental and control groups) from the registered members of Kermanshah MS Society. It is worth noting that the number of subjects in the present study partially corresponded to the appropriate number of subjects suggested in the clinical literature, ranging from seven to ten members and in some other cases between ten and fifteen members. As for sample selection, the inclusion criteria included the diagnosis of multiple sclerosis, being female, and having middle school education and above. Also, the exclusion criteria were diagnosis of physical illnesses, other mental disorders, and receiving psychological treatment. Not to mention, this research was recorded with the registration code of IRCT2016020625433N2 in the clinical trial center.

After sampling, the subjects were randomly assigned to two experimental and control groups, and then the pretest was performed in both groups. After that, the experimental group was collectively provided with the independent variable, i.e., acceptance and commitment therapy (ACT), in eight 90-minute sessions once a week. As for the control group, no intervention was offered. Upon completion of the sessions, the posttest took place. The treatment plan given to the experimental group is briefly shown in [Table 1].

The ACT protocol, which was based on an unpublished manual used in a previous study [29] focused on changing expectations from elimination of pain to living as well as possible with chronic pain. Discussions and experiential exercises were used to demonstrate the futility of control-oriented strategies such as thought suppression and attempts to eliminate pain, distress, and other negative experiences. Mindfulness strategies were taught in order to develop the skill of allowing negative experiences such as muscle tension or discomfort, negative thoughts, and emotional distress to pass through consciousness without requiring the expenditure of energy or psychological resources to control or alter them [16]. Participants were also encouraged to identify their personal values and set and pursue short- and long-term goals consistent with those values in order to achieve improved quality of life and functioning.

Table 1: Session outlines for acceptance and commitment therapy (ACT)

Session	ACT
1	The limits of control (short and long-term costs and benefits; finger traps), focus on experience (body scan)
2	Values (what you care about, how you want to live your life)
3	Cognitive defusion (observing thoughts without trying to evaluate or change them)
4	Mindfulness (being in the moment, raisin exercise)
5	Committed action (“road map” connecting values, goals, actions, obstacles, and strategies)
6	Review and continued action in support of values
7	Review and continued action in support of values
8	Moving forward

Ryff's Psychological Well-being scale (PWB): This scale was developed by Ryff in 1980. The original scale contained 120 questions, but in further studies done afterwards, shorter forms of the scale were proposed with 84, 54, and 18 questions. In the present study, the 18-item scale was utilized with six-point Likert Scaling (ranging from strongly disagree to strongly agree). In addition, the validity and reliability of this scale has been reported in numerous preceding studies. In a study conducted by Dierendonck (2005), the internal consistency of the subscales of the psychological well-being scale (PWB) was appropriate, and their Cronbach's alpha was between 0.77 and 0.90. The correlations of the psychological well-being scale (PWB) with life satisfaction scale, happiness inventory and Rosenberg self-esteem scale (RSES) were 0.47, 0.58, and 0.46, respectively. In a study performed by Zanjani Tabasi (2004), the reported internal consistency for the entire psychological well-being scale (PWB) was 0.94, and between 0.63 and 0.89 for the subtests. Moreover, in the present study, the correlation coefficient for the entire test through test-retest was 0.76, and between 0.67 and 0.73 for the subtests ($p<0.001$). In addition, the Cronbach's alpha was 0.83 in the present study [11].

To analyze the collected data and given the research questions, the univariate ANCOVA was employed in addition to descriptive statistics. As for data analysis, the SPSS-23 was employed.

RESULTS

Totally 30 women with the age range of 18-55 years were selected from the intended population and were included in the research. About 55% were in the age range of 18-28 years, 30% were in the age range 29-39, and 15% were 40 years and older. As for education, 42.54% of them had high school diploma or lower levels and 28.64% had technical education after high school diploma, Collegiate 28.82%.

[Table 2] shows mean and standard deviation for scores of psychological well-being test in the studied groups in pretest-posttest and follow-up stages.

Table 2: Mean and standard deviation of psychological well-being scores

Groups	Pretest		Posttest		Follow-up	
	Mean	Standard deviation	Mean	Standard deviation	Mean	Standard deviation
Commitment and Acceptance Therapy	73/87	11/76	85/20	13/89	84/07	7/32
Control	74/80	10/99	72/93	5/36	73/07	6/10

As seen in [Table 2], mean in the experimental group (Commitment and Acceptance Therapy) increased from 73.87 at pre-test stage to 85.20 at post-test stage. But no significant change was observed in the control group in pretest and posttest stages. Considering the difference observed in the mean of the study groups, average psychological well-being in experimental group indicates the effectiveness of the aforesaid procedure.

The Leven's test was used to assess the equality of variances in psychological well-being scores. The results of the Leven's test are provided in [Table 3].

Table 3: Results of the Leven's test to examine the equality of variances in psychological well-being scores

Variable	F	df_1	df_2	Sig
Psychological well-being	2/9	1	28	0/07

In order to evaluate the presumptions of the analysis of covariance (ANCOVA), firstly the homogeneity of slopes of pretests and posttest scores were calculated. Multivariate ANCOVA was used to compare experimental and control groups with respect to psychological well-being scores. The results showed that the tests were significant ($P<0.01$). This means that there was a significant difference at least between two groups. The results are shown in [Table 4].

Table 4: Results obtained from multivariate analysis of covariance on mean scores of posttest of variables in two groups

	value	F	Hypothesis df	Error df	Sig	Square Eta
Pillai's trace	0/80	11/34	14	2	0.001	0/80
Wilks lambda	0/20	11/34	14	2	0.001	0/80
Hoteling's trace	4	11/34	14	2	0.001	0/80
Roy's largest rot	4	11/34	7	2	0.001	0/80

ANCOVA was conducted to find out the difference observed. Considering the calculated effect size, 80% of total variances of experimental and control groups was the result of effectiveness of the independent variable. Moreover, statistical power of the test was 0.80 which means that the test was able to reject the null hypothesis with a power of 80%. [Table 4] only states that in one of the areas there is a significant difference between experimental and control groups. Multivariate analysis of covariance (MANCOVA) was used to distinguish which area was significantly different. The results are shown in [Table 5].

Table 5: Results obtained from multivariate analysis of covariance (MANCOVA): mean scores of posttest of psychological well-being dimensions in the experimental and control groups

Sources Change	Mean Square	Degrees of freedom	F	Sig	Square Eta
Independence	69.08	1	27.31	0.001	0.55
Dominance over the environment	13.14	1	7.42	0.012	0.25
Self-development	66.40	1	25.89	0.001	0.54
Positive relation with people	20.72	1	5.62	0.027	0.20
Being targeted in life	21.44	1	9.58	0.005	0.30
Self-acceptance	102.74	1	15.96	0.001	0.42
Total psychological well-being	1033.87	1	15.42	0.001	0.41

Results of [Table 5] show that there was a significant difference in psychological well-being dimensions including independence, dominance over the environment, self-development, Positive relation with people, being targeted in life, and self-acceptance between the two study groups. Overall psychological well-being with F=15.42 was significant (P= 0.001). Considering the Eta square of 0.41, it can be said that 41% of the changes in the dependent variable was due to effectiveness of the independent variable.

DISCUSSION AND CONCLUSION

The present study aimed to investigate the effectiveness of acceptance and commitment therapy (ACT) on the psychological well-being of women with MS. As the results of the present study demonstrated, the acceptance and commitment therapy (ACT) significantly enhanced the psychological well-being of patients with multiple sclerosis in the experimental group compared to the control group. This result was consistent with the results of a study conducted by [22] in which it was reported that the acceptance and commitment therapy (ACT) influenced the treatment of anxiety and depression of women suffering from MS. In addition, this finding of the present study was concurrent with the results of a study conducted by Izadi et al. (2013) [8], in which it was reported that the acceptance and commitment therapy (ACT) could lessen obsession, depression, and anxiety in patients suffering from MS. In acceptance and commitment therapy (ACT), patients are trained in mindfulness each session. By the same token, Brown & Ryan (2003) concluded that mindfulness and presence of mind increase one's wellbeing [3]. In line with the results of the present study, Arch and Craske (2005) [2] concluded that the participants that concentrated for 15 minutes experienced mental clarity and reduced physical stress compared to those lacking such concentration [5]. Given that it has been proven that psychological stress can activate multiple sclerosis, thus, not only does the commitment and acceptance therapy increase the psychological well-being, it also reduces stress in patients suffering from multiple sclerosis, as a result of which the recurrence rate of this disease is lessened in these patients. Therefore, it seems that the psychological interventions, including the acceptance and commitment therapy, can play efficacious roles in increasing the psychological well-being and overall mental health of patients suffering from multiple sclerosis.

In this therapy, the practices of behavioral commitment along with diffusion and acceptance techniques as well as detailed discussions about one's values and goals and the need for specification of values all led to an increase in the psychological well-being of women suffering from MS. Further, in this treatment, the main goal of placing greater emphasis on one's inclination towards inner thoughts was to assist one to experience one's worrisome thoughts just as a thought, to become aware of the inefficient nature of one's current programs, and to handle what was of importance in one's life in line with one's values rather than responding to those thoughts. Here, through replacing ego as background, clients could smoothly experience one's unpleasant inner events in the present and were able to restrain oneself from nasty reactions, thoughts, and memories. In fact, it aimed to affirm one's psychological flexibility. As the results of the statistical analysis showed, this approach led to a major rise in the psychological flexibility of this group of patients. In practice, the central processes of ACT teach one how to desist from worrisome deterrent thoughts, how to conceptualize such thoughts, how to affirm self–observation, how to accept rather than control the internal events, and how to clarify one's values. In this therapy, one learns how to accept rather than desist from one's feelings. It also raises awareness about one's thoughts and thinking process and links them towards the realization of goal-oriented activities. In short, AC Taims to teach one to experience rather than obstruct one's thoughts and feelings, and one is asked to do one's utmost towards the realization of goals and values [22].

One of the limitations of the present study was the limited number of the sample under study because the male patients were not included in the study. Accordingly, it is recommended that larger groups that includes men be investigated in future studies towards greater validity of this therapy with greater

confidence. In addition, it is suggested that this method of treatment be compared to other methods to determine how they are different from each other.

CONFLICT OF INTEREST

There is no conflict of interest.

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FINANCIAL DISCLOSURE

None

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