



The Effect of Mindfulness Therapy on the Resiliency and Psychological Well-Being of Woman with Multiple Sclerosis (M.S)

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Abstract

The aim of this research was to study the effect of mindfulness therapy on the resiliency and psychological well-being of woman with multiple sclerosis (M.S). This design of the study is pretest, post-test control group. The sample include 30 person (15 group control and 15 group experimental) woman multiple sclerosis were selected randomly and were requested to answer resiliency Cower and Diwidson (2003) scale and psychological well-being Riyf (1997) scale questionnaire. After selecting the samples consist of (experimental and control group), both group were administered test. Than the mindfulness therapy was started for 8 sessions of 90 min use each one. At the end of training post-test was taken for both groups. For analyzing the results we used covariance (MANCOVA). The results of data analysis showed that mindfulness therapy caused the increase of c resiliency and psychological well-being of experimental group of woman multiple sclerosis in comparison to the witness groups.

Keywords: *mindfulness therapy, resiliency, psychological well-being.*

Introduction

The Multiple Sclerosis (MS) is a chronic and progressive disease of the central nervous system that causes sensory loss, weakness, muscle cramps, visual disturbances, cognitive dysfunction, fatigue, tremor, impaired urination, defecation disorders, sexual dysfunction, balance disorder, amnesia, hearing loss, numbness, blurred vision, and double vision and speech disorders in individual patients (Davidson, 2014). Multiple sclerosis (MS) is a chronic disease with very common physical and mental disorders among the patients involved in. MS disease is categorized in CNS disease and the most common neurological diseases in humans and the most serious disease leading to disability. So far, why the illness occurs has not been determined but it seems that the disease is associated with autoimmune responses. The virus may stimulate the immune system to produce antibodies that attack mistakenly at the body's own elements (Zandipour, 2009). The clinical course of MS would be varied and can range from a completely benign to progressive and debilitating courses. The patients are involved in psychological and physical problems. One of the important psychological aspects of the patients subject to the disease and stress-related illness perception would be the resilience of these patients (Davidson,



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2014). Malachy's study (2011) revealed that the resiliency and hardness factor of MS patients are lower significantly from patients with other chronic diseases, including inflammatory bowel disease, diabetes and epilepsy. Siebert (2005) knew the resilience to be the science of human reversibility and meaning that it can deal with the changes that disrupt daily life. In other words hardness factor is meant to maintain health and energy as a person is placed under psychological and physical pressures. The resilience consists of personal characteristics in the face of stressful life events and acts as a source of resistance and as a protective shield (Ismail Khani, Ahadi and Mazaheri, 2009). But the resiliency arises with regard to the combination of stressful situations and the innate ability of people to respond and survive and grow normally in the presence of a stressful situation and it is considered as a solution inspiring and pleasant, because difficult and poor conditions could be potentially devastating and disappointing. There is clear evidence about the relationship between unpleasant and difficult life events in childhood and mental disorders in later life that this disorder can be depression, suicide, and so on. The resiliency can be make hope in clinical practice and its main advantage is that the person will know that most people will never give up against tough conditions and submit easily. MS patients often because of the resiliency of this disease problems and controlling themselves are usually less severe and believe that they have no control over their own lives or their fate is out of their control (Steven, 2014). On the other hand, women with MS due to social and psychological problems have lower subjective well-being. Lar (2011, quotes Rezaie, 2014) stated that for women with MS compared to healthy women differ in terms of psychological well-being and benefit lower subjective well-being because of physical and mental problems. It is to say there is a close but complex relationship between the subjective well-being and values. Criteria differ for people based on which they evaluate their own mental understanding of happiness. In fact, experience of happiness and satisfaction with life would be regarded overriding goal and feelings of sadness and discontent over the life is often perceived as an obstacle tasks (Laughin and Huebner, 2010). The subjective well-being feelings mentally include cognitive values of their lives and the people valuate differently their own understanding depending on their past expectations and experiences (Diener and Lucas, 2012). In these patients, depression, confusion in interpersonal relationships, sleep disturbances, fatigue and reduced physical and mental function get the psychological well-being lowered (Mirzamani, Safari, Hellili Sazi and Sadidi, 2008). But to control the problem in women with multiple sclerosis, non-drug treatment can have a significant impact on their problems. One method treatment, its effects have been reported in several studies, is mindfulness therapy. Laiwu (2011, quoted Zehtab Najafi and Salemi, 2013) showed that the mindfulness therapy has a positive impact on the psychological problems. The mindfulness is a way to express that can be an effective treatment to reduce the problems of such people. Because it is a psychological treatment that combines therapy-cognitive aspects of Beck and mindfulness-based stress reduction program of Zein (1990) together, and it is determined by the attention focused on the present and by a non-judgmental awareness of inner and external experience. The



mindfulness training using a combination of relaxation and mindfulness meditation is of stress reduction and psychotherapy treatment in which the mental representation of things existing in life out of control immediately by human, it is instructed through breathing and thinking. The mindfulness reduces the symptoms of anxiety and depression and is effective to improve the physical, mental, emotional and spiritual well-being, high quality life and enjoying of life (Brad and Clarke, 2013). The mindfulness aims to shift the thinking style towards procedure of how to being. The goal of this method is the method to be taught to patients to be able to behave with their own thoughts and experiences differently. As one learns mindfulness skills, s/he is taught that consider less power, authority and value to judging and blaming her/himself, which are the fuel that feeds negative thoughts, and respond with kindness and acceptance whenever encountering with this situation (Kouiken, 2010). According to what was said, MS patients deal with the psychological and physiological problems and assessing the effectiveness of therapies that can adjust these problems in a good process can provide appropriate feedback to reduce impaired patients. The aim of this study was to evaluate the effectiveness of mindfulness on the mentally resiliency and well-being among women with multiple sclerosis. Therefore, this study considered the issue of whether the mindfulness is effective on the resiliency and well-being of women with MS.

Research Methodology

In this study, quasi-experimental method (pretest and posttest control group) was used. Because this study seeks the changes resulting from the implementation of mindfulness therapy on the mentally resiliency and well-being of women with MS, this plan was used. The statistical population included all women with multiple sclerosis referred to MS Therapy Centre in Tehran in 2015. The sample consisted of 30 women with MS who were selected by available sampling and then through the sample, 15 were randomly assigned in control group and 15, in the experimental group. The inclusion criteria were women with this form of MS that since 6 months ago, diagnosed with this disease and they are the patients without psychiatric illnesses and personality disorders.

Research Tools

A) Resiliency Questionnaire: Connor and Davidson (2003) prepared a questionnaire to assess their resilience. The creators of this questionnaire believe that the questionnaire could distinguish resilient from non-resilient individuals in both clinical and non-clinical groups and can be used in research and clinical situations. The questionnaire consisted of 26 items in a Likert scale of zero (completely false) and four (always right) (Hussain, 2012). Mohammadi (2005) using Cronbach's alpha method obtained the reliability coefficient of 0.89 for the questionnaire. Shakerinia and Mohammadpur (2010) using Cronbach's alpha method obtained the reliability coefficient of 0.90 for the questionnaire. Mashal Pour (2010, quoted Hosseini, 2012) through making it correlated



with Ahvaz hardiness scale by calculating 0.64 correlation coefficient at a significance level ($p < 0.001$) showed the construct is of relatively high reliability. In another study, Hosseini (2012) calculated 0.87 reliability coefficient, through Cronbach's alpha, too.

B) Psychological well-being questionnaire: the questionnaire was prepared by Reef (1997) and it is 84-point tool that measures six distinct aspects of psychological well-being. The participants answer the questions on the basis of a six-degree construct from 1 to 6 (strongly disagree to strongly agree) (Fathi Ashtiani, 2009). In a study by Shamtorif, internal consistency of the subscales has been reported between 0.82 and 0.90. In Iran, Bayani et al. (2008) reported the internal consistency between 70.0 and 82.0 using Cronbach's alpha coefficient and validity suitable (Fathi Ashtiani, 1388). In the country, various domestic researches have been conducted that have tried to measure the psychometric properties of this tool. Of the studies, the study by Tashakouri et al in 1994, the reliability coefficient obtained by 0.78 in Iran. In other researches, including Chegini in 2002, using Cronbach's alpha, the reliability coefficient was reported by 0.90 (Fathi Ashtiani, 2009).

Sessions of Mindfulness

Table 1: mindfulness training sessions

Therapy sessions	Sessions contents
Session 1	Introduction of participants and a brief description of the eighth session of therapy, meditation of body scan and taking a pre-test
Session 2	Leaflets distributed on the second session Caring out body scan meditation and talking about this experience and using in in everyday activities Talking about homework, barriers and solutions practicing mindfulness program for them. Talking about how to deal with sources of stress Talking about the difference between thoughts and feelings Assignment for next meeting
Session 3	Leaflets distributed session 3 Practiced seeing and hearing Sitting meditation and breathing with respect to the physical senses. Exercising 3-minute breathing space Talking about homework
Session 4	Monitoring and evaluating assignments before meeting Leaflets distributed in 4 sessions Sitting meditation with regard to breathe Talking about stress responses and reactions to difficult situations and behaviors of the person replaced. Meditation techniques for being aware of thoughts Providing new assignment for next meeting
Session 5	Distributing leaflets about the meeting 5 Sitting meditation Practiced breathing space of three minutes. Assignment for next meeting



	Discussion and evaluation of the previous session assignments
Session 6	Leaflets distributed sixth session Aware of the thoughts and the thoughts on life The homework for next session
Session 7	Distributing leaflets about the meeting 7 Meditation four-dimensional Practiced inclusion of pleasant events rather unpleasant events 3-minute breathing exercise Household assignment like sitting meditation, exercise 3 minutes breathing space.
Session 8	The theme of the meeting: Use what you have learned so far Raise questions about the meetings

Findings

Table 2: Mean and standard deviation of resiliency and psychological well-being for experimental and control groups in pre-test and post-test

Variables	Stage	Statistical	Mean	Standard deviation	Number
		Group			
Resilience	Pre test	Experimental	22.40	5.26	15
		Control	24.66	5.80	15
	Post test	Experimental	42.53	6.13	15
		Control	22.40	3.60	15
Psychological Well-Being	Pre test	Experimental	41.93	3.43	15
		Control	39.92	5.83	15
	Post test	Experimental	64.26	10.40	15
		Control	32.73	7.78	15

As seen in Table 2, the mean and standard deviation for the resilience are in experimental group 22.40, 5.26 and in the control group, 24.66 and 5.80 and in post-test for experimental and control groups, 42.53, 6.13 and 22.40, 3.60, respectively and for psychological well-being in pre-test for experimental and control groups, 41.93, 3.43 and 39.92, 5.83 respectively, and in post-test for experimental and control groups, 64.26, 10.40 and 32.73, 7.78, respectively.

Table 3: Results of the Kolmogorov-Smirnov test of H_0 on normal distribution of resiliency and psychological well-being scores

Normal distribution of scores	Groups	Kolmogorov-Smirnov		Groups	Kolmogorov-Smirnov	
		Statistics	Significance		Statistics	Significance
Resilience	Experimental	0.15	0.20	Control	0.18	0.15



Psychological Well-Being	Experimental	0.14	0.20	Control	0.11	0.20
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As seen in Table 3, H_0 on the normal distribution of scores to both groups is confirmed in resiliency and psychological well-being. That is, H_0 was confirmed in pre-test and both experimental and control groups.

Table 4: Results of testing for hypothesis on the regression slope homogeneity of variables between the two groups

Variable	Change source	F	Significance level
Resilience	Interaction of group \times pre-test	1.78	0.74
Psychological Well-Being		1.04	0.57

As seen in Table 4, the F value of interaction for all variables is insignificant. Therefore, the hypothesis of homogeneity of regression is confirmed.

Table 5: results of Levine's test of H_0 on the equality of variances of the variables' scores between the two groups

Variable	F	First degree of freedom	Second degree of freedom	Significance level
Resilience	0.51	1	28	0.47
Psychological Well-Being	2.72	1	28	0.11

As seen in Table 5, the Levine's test is not significant for the resiliency and psychological well-being. So the variance in test and control groups was not significant for the resiliency and psychological well-being, as a result, the hypothesis on homogeneity of variances is confirmed and null hypothesis on the equality of variances for the scores in both groups between all variables is confirmed. The null hypothesis of equality of variances for the scores in both experimental and control groups was confirmed.

Table 6: Results of MANCOVA on the post-test scores of resilience and psychological well-being for experimental and control groups by pre-test controlling

Test	Value	Hypothesis DF	Error DF	F	P	Effect size	Statistical power
Test of Pygmalion effects	0.91	2	25	138.28	0.001	0.91	1
Wilks Lambda	0.08	2	25	138.28	0.001	0.91	1



test							
Hotelling trace test	11.06	2	25	138.28	0.001	0.91	1
The biggest root test	11.06	2	25	138.28	0.001	0.91	1

As Table 6 shows, by controlling the pre-test for the significant levels of all the tests, indicating that there is a significant difference between the people with MS from the control and experimental groups, at least one of the dependent variables (resilience and psychological well-being) ($F= 138.28$ and $p < 0.001$). To realize the fact that in which variable there are significantly between the two groups, two one-way analysis of covariance was performed in the context of MANCOVA and the results are shown in Tables 4-8 and 4-9. The amounts of effect or difference are equal to 0.91. In other words, %91 of individual differences existing in resiliency and psychological well-being scores for the people with MS is related to the effect of mindfulness. Statistical power is equal to 1, in other words, there is no possibility of a Type II error.

Table 7: Analysis of one way covariance results in Context of MANCOVA on average post-test score for the resilience in experimental and control groups with pre-test control

Variable	Sum of Squares	DF	Mean of squares	F	P	Effect size	Statistical power
Resilience	2908.10	1	2908.10	146.56	0.001	0.84	1

As Table 7 shows, by controlling the pre-test, there are significant differences between the experimental group and control group people with MS in terms of resiliency ($p < 0.001$ and $F=146.56$). In other words, the mindfulness therapy according to the mean of resilience for the experimental group people with MS compared to the control on average has led to increased resiliency for the experimental groups of MS patients. The effect size is equal to 0.84, showing that 84% of individual differences in resilience post-test scores would be related to the effect of mindfulness.

Table 8: Analysis of one way covariance results in Context of MANCOVA on average post-test score for the psychological well-being in experimental and control groups with pre-test control

Variable	Sum of Squares	DF	Mean of squares	F	P	Effect size	Statistical power
Resilience	6610.87	1	6610.78	78.84	0.001	0.75	1



As Table 8 shows, by controlling the pre-test, there are significant differences between the experimental group and control group people with MS in terms of psychological well-being ($p < 0.001$ and $F = 78.84$). In other words, the mindfulness therapy according to the mean of psychological well-being for the experimental group people with MS compared to the control on average has led to increased psychological well-being for the experimental groups of MS patients. The effect size is equal to 0.75, showing that 75% of individual differences in psychological well-being post-test scores would be related to the effect of mindfulness.

Discussion and conclusion

In this study, the effects of mindfulness on the resilience and well-being in women with MS were examined. According to the results, it became clear that under pre-test control, there are significant differences between the experimental group and the control group of patients with MS in terms of resiliency. In other words, according to the mean of resiliency in people with MS of the experimental group compared to the controls the mindfulness therapy leads to increased experimental groups of MS patients' resiliency. The results are consistent with the study by Rezaei (2014) showed that the mindfulness therapy can increase the hardiness of patients with multiple sclerosis, Abdar (2011) concluded the implementation of mindfulness increases the resiliency among the patients, Nezhadian, Samani and Amiri (2010) showed that the mindfulness increased the resiliency between MS patients and therapeutic intervention is highly effective in promoting resilience of the patients, Palfid (2015) showed that the mindfulness therapy brought an increase in the resilience with MS women, Davidson (2014) concluded that the mindfulness therapy significantly increase the resiliency of patients with multiple sclerosis, Hall and Jennifer (2014) concluded that the mind is increased the hardiness coefficient of MS patients. In explaining the results obtained, it can be concluded that the MS patients because of involving this kind of disease and disorders of the central nervous system are shaken against the stress driven by the disease and have lower resilience in the face of these mental and emotional problems (Malachy, 2011). According to Fredrickson and Tosed (2004), people with low resilience to cope with negative events could not return positively back to their previous conditions (Hussaini, 2012). But in this study it was found that the mindfulness therapy intervention would increase emotional improvement and health due to enabling the person in resiliency on mental dimensions; and because the members can recognize with help of therapist to recognition the patients were tested and they found out the accuracy of dimensions of their lack of resilience in the face of challenges and problems, this caused the patients to be more surrounded their own resiliency capabilities and the therapy makes increased the hardiness, building and repairing themselves, increased flexibility and increased triumphant attitude to adverse events resulting from the disease; and the patients have higher self-worth. The MS patients were trained in mindfulness that boost their cognitions, emotions and reactions to emotional, emotional and cognitive state and by looking at the bright side of things and



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interpersonal problems and appropriately understanding stress exhibit higher returning against the injury of disease perceived and cope with the risky situations and with help of high capacity to overcome the problems in life, maintain and upgrade the health and energy that is under pressure, and enhance their own resilience. It can be said the mindfulness therapy in MS patients increases the focus on coping skills and provides relaxation for the individual in various situations and in this type of therapy, because imprinting techniques implemented, the members play the role they are responsible for the problems, and through the implementation of the role, reinforcing, feedback and providing appropriate practices, they surmount their problem, and increase the mental and emotional calmness and growth in emotional and cognitive dimensions, increase the control status, as well as the ability to increase the accountability and resiliency of patients with multiple sclerosis. As a result, we can say that the mindfulness therapy increases the resiliency and in general, it should be mentioned that the mindfulness therapy is effective in increasing the resilience of patients with multiple sclerosis. Also according to the results, it became clear that with a pre-test control there are significant differences between people with MS from experimental group and the control group in terms of psychological well-being. In other words, the mindfulness therapy, according to the average psychological well-being of people with MS from the experimental group compared to the control, leads to increased psychological well-being. The results are consistent with those achieved by research of Khani (2011) showed that the mindfulness therapy is effective to increase the well-being of patients with multiple sclerosis, a study by Dimenove (2014) concluded that the mindfulness therapy approach is effective in increasing psychological well-being, Dennis and Brecker (2012) showed that the mindfulness therapy increases the quality of life of patients with MS, Mitchell (2011) showed that the group mindfulness therapy causes differences in psychological well-being post-test scores and that group therapy mindfulness had great impact on the psychological well-being suffering from multiple sclerosis and finally, R Howard (2005) showed that the mindfulness therapy affects and increases the psychological well-being of patients with multiple sclerosis. In explaining this conclusion, it can be stated that the MS patients due to physical problems have a lot of physical, mental and emotional problems and because of this, have dysfunctional beliefs about life. The MS patients have very low psychological well-being. The findings suggest that MS patients invoke the false documents and beliefs about psychological well-being, and feel that they are never able to control living conditions. But in this study it was found that the mindfulness therapy increased the psychological well-being of people with MS effectively. It can be explained the mindfulness therapy changed the consequences of negative thinking in the minds of MS patients, changed their focus to the mind and making calm situations for the persons, lead them according to their condition to have high attitudes, emotions and knowledge of their own and their general feelings and positive impressions of themselves and have their image more appropriate. Adler stated the therapy aiming at change in goals and attitudes are wrong. The mindfulness therapy exercises and techniques to calm mind and through playing



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role, reinforcing feedback and providing appropriate training helped the patients correct their wrong targets and the false social beliefs and form the interest more for themselves, that in general, it has have a significant impact on the psychological well-being and increased the structures and led fewer behavioral problems to occur, and accept their physical condition and appearance better, and in personal and social interactions have shyness, sadness and fear less, they are also less hermit and the ability to communicate for them to enhance and eventually feel happy, comfortable and in general have a higher public satisfaction. It must be said, the mindfulness therapy intervention in these patients, because to enabling the person in mental dimensions and improving and increasing mental health and improvement and concentrating to the present and a conscious awareness, would help the patients to reach a balanced state of consciousness and reduce mental problems, by seeing and accepting their emotions and thoughts as they happen. Because this method a combination of relaxation and mindfulness meditation reduces stress, anxiety and depression symptoms and it results in the MS patients to promote their own individual feel and value and MS patients to express more self-esteem under satisfaction with the life. As a result, we can say that the mindfulness therapy enhances the psychological well-being in patients with multiple sclerosis. The results showed that the mindfulness therapy increased resiliency as well as the psychological well-being among MS disease. The mindfulness therapy can be stated that the implementation of the mindfulness therapy protocol for the patients, due to the exchange of feelings and psychological debriefing techniques, the discovery of negative thoughts and problem-solving techniques to cope with, increased the resilience as well as under changing the idea, would meet and satisfy the biological needs and integrate social field and situations of MS patient. It can be said the mindfulness therapy resulted in multiple-sclerosis patients to gain the confidence and strength to endure adversity and not to simply consider as the victim of every good and evil things, but employ the wisdom and common sense and logical reasoning in their actions. As a result, we suggest that the mindfulness therapy to increase resilience and well-being of patients with multiple sclerosis effectively. In the end, it must be said that MS Society making cumbersome legislation and non-compliance to therapy sessions run in association did not allow the meetings to be held in a private area and this gave rise to hold the sessions in private place. Due to time constraints on the researches and problems of the patients, there was no possibility of holding more training sessions and follow-up tests; it is suggested that the MS Society's do more collaboration to improve the quality of life of MS patients, the implementation of the effective mindfulness therapy due to its positive impact on the resiliency and psychological well-being, and theses effective therapy in addition to drug therapy to be employed for these patients optimally. It is recommended that therapy centers and therapists specializing in MS patients to pay special attention to the effectiveness of mindfulness therapy due to positive effects on increasing the resilience and psychological well-being, and recommended that the mindfulness therapy training CDs of sessions of the mindfulness therapy shall be prepared and give the researchers and



therapists and the therapists, researchers and families of patients as a therapeutic-training package to reduce problems of MS patients and increase the quality of life for them in the family.

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