

The efficacy of group reality therapy on reducing stress, anxiety and depression in patients with Multiple Sclerosis (MS)

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Abstract

Introduction: One of the main problems of chronic patients, especially patients with Multiple Sclerosis (MS), is negative emotion. The purpose of this study was to investigate the effectiveness of group reality therapy in reducing stress, anxiety and depression in patients with multiple sclerosis (MS).

Methods: A total of 40 patients with MS at the Multiple Sclerosis Society of Iran were selected and randomly divided into two groups of experimental and control (N=20 subjects). All participants before and after the intervention to scale DASS-21 responded. The experimental group received eight sessions of reality therapy and the control group received no intervention. The data of pre-test and post-test were analyzed using descriptive and inferential statistics (analysis of covariance).

Results: Findings showed a significant reduction in the mean of the three variables of stress ($F(1.38) = 81.37$; $p < 0.01$) anxiety ($F(1.38) = 81.89$; $p < 0.01$) and depression ($F(1.38) = 82.56$; $P < 0.01$) in the experimental group after the intervention ($p < 0.05$).

Conclusion: in this study group reality therapy significantly reduces stress, anxiety and depression in the intervention group compared with the control group. The reality therapy can be an effective therapy in the treatment of stress, anxiety and depression in patients with MS and as an adjunct to other therapies.

Declaration of Interest: None.

Key words: Reality Therapy, Stress, Anxiety, Depression, Multiple Sclerosis.

Introduction

Multiple Sclerosis (MS) is one of the central nervous system diseases in which the myelin sheath progressively dwindles away and affects the sensory and motor functioning (1). The disease is one of the most common neurological diseases in humans, and is the most disabling disease in youth. The most common age of its onset is in the young age, and its prevalence is about twice in women than men (2).

Chronic diseases such as multiple sclerosis, in addition to physical health problems, cause numerous psychological disorders in patients as well (1). In a study by Biscay et al. (2008) on

Evaluating depression and anxiety in patients with MS performed on 120 patients in Norway, according to the results, 31.4% and 19.3% of patients reported symptoms of depression and anxiety, respectively. The study revealed that the depression symptoms and anxiety symptoms respectively occur almost twice and three times more among the patients with multiple sclerosis compared with the general population in Norway (4). Stress, as a multi-dimensional and multifactorial phenomenon can be considered as a complication of the Multiple Sclerosis disease as well as a factor in aggravation or recurrence of the symptoms caused by the disease (5). Stress can sometimes

be life-threatening for the patients, including factors of divorce, loss of job and family conflicts (6). Depression is experienced by 50% to 60% of patients, which can be the cause or effect of fatigue in endogenous and relapsing forms. The suicide rate in these patients is approximately 7.5 times higher than the control group (7). Depression and anxiety may increase the fatigue. Depression may be caused by poor quality sleep and nutrition, or might be associated with a general feeling of depression. It is important to diagnose the cause to pursue the proper pharmacological and psychological treatments (8). Although, anxiety is another debilitating symptom in these patients, but it has been less studied. According to the research literature, its prevalence has been reported varied. In a study on patients recently diagnosed by the disease, anxiety has been reported in 34% of patients and in 40% of their parents (9). The exact cause of high rates of depression and anxiety in these patients is unknown. It is believed that a combination of psychosocial and neurological factors related to the disease are likely involved (10). In a study by Thornton et al. (2007), the rate of worry in MS patients and the relationship between worry and anxiety and depression in these patients were investigated in a case-control study. The results showed that anxiety and depression scores in patients with MS were higher than the control group, the MS patients' concerns included two parts: The patients' concern about the impact of the disease on their physical activity and their concern about the disease severity effect on social interactions, family relationships and daily activities at home or work (3). Studies have also shown that patients with multiple sclerosis have much higher levels of psychiatric disorders such as depression, stress and anxiety compared to the healthy subjects. These symptoms may be due to the direct effect of inflammation and demyelination of nerves or related to the psychological impacts of the chronic and unpredictable multiple sclerosis. The mental manifestations of this disease include anxiety, stress, depression, cognitive disorders, irritability and the anger that among them, anxiety, stress and depression have the most prevalence in patients with multiple sclerosis (11). Approximately 48% of patients experience the symptoms of stress, anxiety and depression in the first year after the diagnosis (12).

The positive psychology approach of "choice theory" and "reality therapy" occurs in the areas of psychiatry, psychology and behavioral sciences. In 1965, William Glasser provided a new theory about the psychopathology of mental and behavioral disorders and their treatment methods that was called by him "reality therapy". In general, "choice theory" explains that "why" and "how" the people behave. This theory explains the human brain functioning in managing the behaviors.

Glasser believed that failing to meet the basic needs is a general and universal experience, since the "reality" is not always synchronized and consistent with us. However, some people failed to meet their needs act irresponsible instead of accepting their responsibility and searching for other effective ways to satisfy their needs and act responsibly to meet them (13).

The physiological component was introduced at the beginning addressed in MS and damages to the myelin. However, the emotion component of the general behavior is also involved in MS patients and disturbs the mood and trends. The research carried out in the 1960s and 1970s focused on these intrinsic processes to realize the daily lives of people with MS. Despite the help of technology in describing the physiological states and the recognition process, understanding these inner states as a way to understand one's own self is recommended (14). The component of thinking, cognition and brain functions are also much affected by multiple sclerosis. Long-term studies have found an important brain weakness for those with fewer and milder disabilities over one or two years (15). The most common characteristic depends on changes occurring in the perceptions. However, about 24% of people with MS have the potential to generally reduce the rate of disease progression through interventions such as meta-cognitive therapy. Although this does not make an important difference in the accuracy of the disease process, and finally, the functioning component as the most effective wheel in the behavior machine directly and immediately affected by the choices of individuals would influence the multiple sclerosis, but unfortunately, a large number of MS patients in practice component emphasize on those things they cannot do (14). This results in inefficient choices and sometimes failure to do specific actions and a tendency

toward dependence on others to perform their affairs.

In their studies on reality therapy and MS, Kelsh et al. (2002) concluded that reality therapy has a significant influence on quality of life of MS patients (16). In his study as “reality therapy and MS”, Ahmadian came to the conclusion that reality therapy is effective on increasing the quality of life and further adaptability of people with the disease. Also in a similar study entitled as “Effectiveness of reality therapy in reducing anxiety in elementary school pupils”, Shafiabadi et al. (17) concluded that the reality therapy is effective in reducing anxiety. Cato Shaman study (18) showed that the reality therapy functions effectively in the management of chronic pains and increasing the coping skills. Akahoori (19) also demonstrated the effectiveness of reality therapy on mood control in a case of advanced endometrial carcinoma. In a study by Ali Pasha and Amini (20), the reality therapy significantly decreased the anxiety of martyrs’ wives.

Reality therapy process is somehow an invitation to take responsibility and use of creative and responsible approaches to satisfy the needs. There are controversial results about the impacts of different treatment methods on controlling the psychological consequences. As a result, the reality therapy was evaluated in this study to clarify whether this method is effective in improving the psychological symptoms of MS patients or not.

Methods

This was a quasi-experimental design with pre-test, post-test and control group approach. The study population included all patients with MS referred to the MS Society in Tehran in June 2015. Data collection lasted 3 months. As clinical literature suggests the appropriate number of members of a therapy group intervention between 8 and 12 members (17) and experimental studies usually use samples with 15-20 subjects for each group (18), the sample size was considered as 40 subjects. The samples were selected by available method based on the inclusion criteria and randomly divided into two groups (control and intervention, each of the 20 subjects). The inclusion criteria included:

Diagnosis of relapsing MS, type of recurrence-suppression, not using psychiatric drugs and psychological therapies during the study, age

between 20 and 40 years, non-developing other acute or chronic disorders, no hearing or speech problems, consent to participate in the research.

After selecting the subjects, first, the research purpose, duration and the benefits of participating in the study were explained to them. They were told that they will participate in a study and all the information taken would remain confidential. Subsequently, a written consent was obtained from them, and they were assessed by the researcher using an inventory.

Since dealing with feelings in group interaction is not a structured method, thus, the focus of all sessions is on the emotions occurring here and now within the group. After explaining the treatment logic and methodology for the subjects and removing ambiguity regarding group meetings, the first session began. The intervention plan, involving the performance of the group reality therapy, was conducted on the experimental group for 8 sessions in MS Society in Tehran. The focus of sessions was on the selection, responsibility and expressing feelings here and now. In most of the session, people were helped to realize the differences of their thoughts, feelings and behaviors and get knowledge of the impact of these components on each other. At the end of each session, the experiences of the participants during the session were discussed. Also, an emotional feedback was taken from the people of the whole session, and according to what they had experienced, the required feedback should be given. At the end of program after one week, both experimental and control groups again completed the DASS-21 questionnaire as a post-test. The data was evaluated using the SPSS software (version 16) and analyzed using covariance descriptive and inferential statistics. The analysis of covariance of pre-test scores was controlled and to assess the effect of the independent variable, the post-test scores were examined.

Depression, anxiety and stress scale (DASS-21) The DASS-21 Scale (laviband and laviband, 1995) contains 21 questions, in which 7 questions are used to measure each of the symptoms of anxiety, stress and depression. The scale was designed in a Likert form with options of never, low, moderate and high. The lowest and highest scores of each question are equal to zero and 3. The instrument rating on stress, anxiety and

depression is defined as the sum of scores between 0 and 4 as normal, 5 to 11 as moderate as and higher than 12 as severe (labivand, 1995). Anthony et al. (21) analyzed the mentioned scale. The study results again suggested the presence of three psychological factors of depression, anxiety and stress. The results showed that 68% of the scale total variance are assessed by these three factors. The special values of stress, anxiety and depression factors in the study were respectively as 9.07, 2.89 and 1.23, while the alpha coefficients for these factors were respectively as 0.97, 0.92 and 0.95. Also, the results of calculating the correlation among the factors in Anthony et al. study suggested a correlation of 48% between stress and depression, 53% correlation between anxiety and stress, and the 28% correlation between anxiety and depression (21).

Samani and Jokar studied the validity and reliability of scale in Iran. The test-retest reliability for depression, anxiety and stress were reported respectively as 80%, 76% and 77%, while the Cronbach's alpha for DDSS was reported as 81%, 74%, and 78%, respectively. The validity of divergent, convergent and structure (factor analysis) was also proved (22).

Results

The indices of descriptive statistics of experimental and control groups before and after the test are given in the table below. Also, to assess the means difference (between pre-test and post-test), the covariance test (for controlling the pre-test scores) was used. Some of the test assumptions were examined before implementing. The results of these assumptions as well as the results of analysis of covariance in the experimental group are presented separately.

Table 1. Mean and standard deviation in both experimental and control groups

Stages	Variables	Experimental Group		Control Group	
		Mean	SD	Mean	SD
Pre-test	Stress	14.30	3.46	14.35	3.52
	Anxiety	13.40	3.74	13.35	3.37
	Depression	13.30	2.43	11.55	2.92
Post-test	Stress	10.15	2.05	14.85	3.45
	Anxiety	9.60	2.68	13.95	2.91
	Depression	9.30	2.25	12.70	2.67

As can be seen, the mean of pre-test scores of two experimental and control groups are not much different from each other. However, the mean of post-test scores in the experimental group in all three variables of stress, anxiety and depression is less than the pre-test stage in both groups, which

indicates the effectiveness of the treatment intervention.

The analysis of covariance was used to investigate the significance of the difference between means (whether the stress reduction is significant or not?) and also to control the pre-test effect.

Table 2. The analysis of covariance of stress, anxiety and depression variable

Source of variations		Ss	df	Mean of Squares	F	P	Eta
Covariance	Stress	13.85	1	13.85	6.06	0.23	0.13
	Anxiety	5.35	1	5.35	2.70	0.34	0.12
	Depression	8.56	1	8.56	4.45	0.21	0.14
Experimental Group	Stress	182.28	1	182.28	81.37	0.00	0.66
	Anxiety	162.15	1	162.15	81.89	0.00	0.63
	Depression	158.53	1	158.53	82.56	0.00	0.67

In stress variable, the Levine's test showed that the error variances of the dependent variable in the two groups are identical. The covariance

analysis table shows that the stress in pre-test, as a covariate did not have significant effect on the post-test (F = 6.06, p = 0.23). According to table

2, the grouping variable (independent) has created a significant difference in the group, and explained 66% of the dependent variable changes. According to the analysis of covariance table, the group reality therapy had a significant effect on reducing stress in patients with MS.

The analysis of covariance was used to investigate the significance of the difference between means (whether the anxiety reduction is significant or not?) and also to control the pre-test effect.

In anxiety variable, the Levine's test showed that the error variances of the dependent variable in the two groups are identical. The covariance analysis table shows that the anxiety in pre-test, as a covariate had no significant effect on the post-test ($F = 2.70$, $p = 0.34$). According to table 4, the grouping variable (independent) has created a significant difference in the group, and explained 63% of the dependent variable changes. According to the analysis of covariance table, the group reality therapy had a significant effect on reducing anxiety in patients with MS.

The analysis of covariance was used to investigate the significance of the difference between means (whether the depression reduction is significant or not?) and also to control the pre-test effect.

In depression variable, the Levine's test showed that the error variances of the dependent variable in the two groups are identical. The covariance analysis table shows that the depression in pre-test, as a covariate had no significant effect on the post-test ($F = 4.45$, $p = 0.21$). According to table 6, the grouping variable (independent) has created a significant difference in the group, and explained 67% of the dependent variable changes. According to the analysis of covariance table, the group reality therapy had a significant effect on reducing depression in patients with MS.

Conclusion

Multiple Sclerosis with its debilitating, chronic and unpredictable characteristics creates many challenges in the lives of patients. According to the young age within which the disease starts, the patients have to reconsider the programs of life, family and work and face the disease recurrence and loss of autonomy, causing abundant anxiety and worry (23). Negative emotions (such as depression, stress and anxiety) in MS patients are usually associated with regard to low quality of life. Considering the levels of neurological

damage in these patients, the treatment of psychological symptoms such as depression and anxiety plays a decisive role in improving their quality of life. Interventions that increase personal development, sense of control and finding meaning in life are effective in improving the quality of life of negative emotions of these patients (24). The study results showed that the group reality therapy is effective on depression, stress and anxiety of patients with MS. The intervention group received intervention measures of expressing emotions in group interactions showed a significant decrease in symptoms of depression and anxiety in comparison to the control group with no intervention. This conclusion is consistent with the results of other studies in this area (16, 17, 18, 20). The group reality therapy is effective in improving negative emotions of such patients. One of the benefits of participating in group sessions is to enable individuals to express their feelings and ask questions. Most of the times, questions and answers are associated with some important information about the people and help them meanwhile expressing their feelings, learn how to cope with these unpleasant feelings. Finally, such information can lead to a reduction in anxiety and worry (25). With regard to the group nature of the intervention in the study, it includes many of the above components such as empathy, expressing feelings, engagement, sharing in experience and increasing the internal control feeling. These components are among factors that can improve the psychological state, especially anxiety and depression of patients. The study results also confirmed this conclusion. Today, it has been determined that psychological stress can activate MS (26). Thus, based on the present study, the group reality therapy improves the psychological status of patients with MS, which in turn reduces the rate of recurrence in these patients. This can be used as an effective approach in addition to medication alone with an important role in improving the quality of life of these patients.

This study, like any other research, has its own certain limitations, including lack of follow-up course due to the unavailability of patients. Subsequently, it is recommended to use follow-up courses in future research. Also according to the study results, it is suggested that the specialists involved in the treatment of MS patients would

use this therapeutic method as an effective complementary therapy approach.

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