



The effectiveness of a training package based on motivational interviewing, therapy based on acceptance and commitment, and therapy focused on compassion on tolerance of failure and health anxiety in patients with multiple sclerosis

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Background and Aim: The present study was conducted with the aim of the effectiveness of the educational package based on motivational interview, therapy based on acceptance and commitment and therapy focused on compassion on tolerance of failure and health anxiety in patients with multiple sclerosis. **Methods:** The current research was a quasi-experimental research design with a control group, pre-test, post-test and follow-up. 40 women with MS referred to the Tehran MS Association in 2018 were selected by purposive sampling and divided into two experimental and control groups through random replacement (20 people in each group). The data were obtained using demographic information questionnaire, failure tolerance questionnaire and health anxiety questionnaire of MS patients. The data were analyzed using variance analysis with repeated measurements and Benferoni's post hoc test. **Results:** The results of the present study showed that there was no significant difference between the average variables examined in the pre-test stage between the two groups, that the training package based on motivational interview, treatment based on acceptance and commitment and treatment focused on compassion on tolerance of failure ($F=8327.20, P<0.001$) and health anxiety ($F=7816, P<0.001$) were effective in patients with multiple sclerosis. **Conclusion:** The results of this research showed that the educational package based on motivational interviewing, therapy based on acceptance and commitment, and therapy focused on compassion can be effective in improving the tolerance of failure and health anxiety in female patients with MS.



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Introduction

Chronic diseases are diseases that cannot be cured but must be managed by the patient and the health professional (Bassi, Grubiru, Negri, Cilia, Minacapelli et al., 2021). However, mankind is not disappointed in the treatment of these diseases and to find a way to improve them in monocots (Soder, Kuhn, Muller, Escheng, Oschman et al., 2021). One of the chronic diseases is multiple sclerosis. Multiple sclerosis is one of the most common diseases that destroys the spinal nerves of the central nervous system and is also the most common disease leading to disability in young people (Dove, 2021). Patients with MS have an uncertain and unstable life. The course of the disease is unclear. Ambiguous situations cause one to engage in endless what-if questions. These questions usually remain unanswered. When people are in a situation of helplessness and disability, they experience a state of helplessness (Lutterotti et al., 2021). Research shows that mental disorders reduce the tolerance of failure in the treatment of multiple sclerosis in all fields. Among the mentioned reasons, we can mention the impact of MS disease on interpersonal relationships, job performance, stress and worrying thoughts and physical symptoms (Lotrotti et al., 2021). Intolerance of uncertainty is a cognitive construct that expresses people's inability to tolerate ambiguous and unknown situations (Lutterotti et al., 2021). Intolerance of uncertainty is a type of cognitive bias that affects how a person perceives, interprets and reacts to an uncertain situation at the emotional, cognitive and behavioral levels (Salaman & Gould, 2020). Uncertainty is a common phenomenon in everyday life that can cause different levels of tension in different people. People who cannot tolerate uncertainty describe the situations of uncertainty as stressful, negative and stressful and try to avoid these situations and if they are in these situations, their functioning will suffer (Pierce, Amado, & Gaspar, 2020). In general, the diagnosis and treatment of multiple sclerosis causes disturbances in sleep patterns and daily activities, causing physical symptoms and disturbances in cognitive function, social participation, and performing one's duties. Finally, it severely affects the patient's quality of life and causes depression in the patient (Rinker, Midor, and King, 2020).

Patients with multiple sclerosis suffer from an adjustment disorder, a depressive disorder, or an anxiety disorder due to cognitive inflexibility (Lebel, Motsaris, Toomey, Leclerc, Jones et al., 2020). Health is one of the most important sources of peace of mind in life, which affects a person's ability to take care of himself and his family. Many people sometimes experience thoughts and worries related to their health. Considering that anxiety is the unconscious reaction of the body during injury. Health concerns are a common factor in many anxiety disorders (Hannah & Strober, 2020). Health anxiety or self-morbidity is the concept of people worrying too much about their health (Mari, Wald, Bolton, Sarin, Patten et al., 2021). The American Psychological Association has mentioned health anxiety as a relatively common disorder that persists chronically if not treated and causes excessive use of the health care system and dysfunction (Mari et al., 2021). Health anxiety is a serious problem that can affect the quality of life and impose many costs on the health and care of society (Wallis, Bull, Koehler, & Vanhugten, 2020). Anxiety ranges from mild, which includes minor concerns related to bodily sensations, to severe health-related fears (Lew, Taylor, Winzenberg, Palmer, Blizzard, et al., 2021). This disorder can disrupt the process of regulating and managing emotions in people (Vidakovic et al., 2021). At the same time, considering the important role of physical health in people's lives, it is not surprising that most people have health concerns at some time (Tabatabai et al., 2020). Health anxiety is one of the areas affected by chronic pain. According to the definition of Tang and Salkoskis, anxiety is a continuum that includes mild worries related to physical feelings on one side and severe fears related to health and mental preoccupation with physical feelings on the other side (Tabatabai et al., 2020). According to Head Jistav Ropoulos and Head Jisturo Poulos, chronic pain patients have abundant health anxiety, selective attention to physical symptoms, and a strong desire to discover physical symptoms in themselves (Russell et al., 2020). According to the cognitive-behavioral perspective of Salkoskis, Warwick, health anxiety in people causes physical changes, the use of medical consultations and the results of continuous tests along with the formation of negative thoughts that are reinforced by emotional mental images,

the person experiences intense and continuous anxiety. (Platro et al., 2020). Heydari and Tawafian said that increasing the amount of chronic pain increases anxiety (Koltoniuk & Rozinzok, 2021). Sekehe et al., Haque et al. reported that the best predictor of insomnia is health anxiety (Akbari et al., 2020).

In the case of chronic and incurable diseases, including multiple sclerosis, psychological interventions seem necessary in this field. Not only because it may increase the success of drug and medical treatment, but also in order to increase the cognitive flexibility of these patients who suffer much more than other organic patients. Failure and other forms of negative emotions such as sadness, depression and irritability have been observed as common causes of anger and aggression (Gedik & Idiman, 2020). Currently, the medical model does not respond to many needs and problems of multiple sclerosis patients. In addition, the occurrence of mental, emotional and social problems hinders the implementation and continuation of medical care (Pouyanfard, Mohammadpour, Parvizi Fardi and Sadeghi, 2020). To treat this disorder, in addition to drug treatments, several psychological treatments have been invented over the years, and various models have been used to educate patients and change their behavior. The goal of educating patients is to help them make decisions about self-care and achieve their goals, values, and motivations (Perdzicki & Sherman, 2016). In the current situation, several psychological treatments have been used for multiple sclerosis patients, which have had relatively useful results in improving pain, sleep, depression, catastrophizing and functional status of these patients. Cognitive behavioral therapies and interventions that use the techniques of these therapies have the highest effect size (Neff & Tirch, 2013).

Based on this, the present plan has been set up to design a training package based on motivational interviewing, treatment based on acceptance and commitment, and treatment focused on compassion and its effectiveness in coping with failure and health anxiety in patients with multiple sclerosis.

Method

The current research is a semi-experimental study in which the design of pre-test-post-test and follow-up was with the control group. The

statistical population consisted of all women with MS covered by the Association of MS Patients in Tehran, who referred to the Association in the months of October to February 2020. The size of the research sample for this study was calculated to be 20 people for each group (Wilson et al., 2019). The entry and exit criteria of this study were: Age range: 30-55 years, suffering from relapsing-remitting MS, higher education level, no history of neurological and mental illness, no history of hospitalization, no substance abuse, ability to participate in group therapy sessions and willingness to cooperate Exclusion criteria for the experimental group were: failure to attend intervention sessions for more than two sessions, unwillingness to continue attending intervention sessions.

Materials

1. Failure tolerance questionnaire. This scale was prepared by Harrington (2015). The purpose of this scale is the tolerance of a person's failure to achieve goals. The total Cronbach's alpha coefficient is 0.84, for the component of emotional intolerance is 0.50, the component of emotional intolerance is 0.61, the component of progress is 0.52, the component of entitlement is 0.71. The total internal consistency validity for the emotional intolerance component is 0.72, emotional intolerance is 0.78, the achievement component is 0.74, and the entitlement component is 0.72 (Shin, Ku, An, Yuon, and Han, 2020). The results of Cronbach's alpha coefficient showed that the reliability of this tool for all participants is 0.84 and the merit component is 0.71, the progress component is 0.52, and the discomfort intolerance component is 0.61 (Duskas et al., 2021).

2. Health Anxiety Questionnaire. The Health Anxiety Questionnaire is an 18-item self-assessment scale designed to measure the symptoms of health anxiety/self-morbidity. This scale specifically measures the presence of worries and mental anxiety about health (Melhin, 2021). Its long form was first designed by Salkosics and Warwick in 1989, based on which the cognitive model of health anxiety and self-diagnosis was developed. Its short form was designed by Salkosis and Warwick in 2014, which consists of 18 questions. This questionnaire has three factors namely disease, disease consequences and general health

concern. Salkoskis and Warwick (2014) obtained the test-retest validity of this questionnaire at 90% and reported the Cronbach's alpha coefficient of this questionnaire from 70% to 82%. These researchers used the IAS questionnaire to measure validity. The validity of the health anxiety questionnaire was obtained at 63%, and Abramowitz et al. (2007) calculated its validity coefficient at 94% (Hasan, 2021).

3. Integrated training package. The control group was treated by a specialist doctor according to a specific current protocol, and the researcher did not interfere in any way. At the end of the study, all the items taught to the test group were presented to the control group in the form of a training package.

Table 1. The structure of the integrated training package

Session	Content
1	Introduction, acceptance of references, determination of meeting goals and general policy of the group rules, talking about MS disease and the role of the family in controlling MS, getting to know the physical and psychosocial effects of MS disease, the role of health anxiety in controlling MS, definition The role of positive psychological factors in MS disease and psychological symptoms of people, introduction of treatment based on compassion therapy and new psychological approaches in MS treatment, determining the general structure and topics of sessions, familiarity with compassion and self-compassion. Explanation of meditation exercises, assignments for the upcoming session
2	Receiving feedback and review of previous meetings, getting familiar with the role of goals, values and spiritual life in the most important areas of life, defining the philosophy of life, implementing goal-setting exercises, implementing the model for identifying areas that define emotions and identifying positive and negative emotions, training to record events. Desirable, paying attention to daily activities with presence of mind, eating with presence of mind to control sugar consumption, explanation of meditation exercises, assignments for the next session
3	Body verification exercise, directing attention to daily activities combined with the state of presence of mind, body verification exercise, ten minutes of mind presence on the flow of breathing, thoughts and feelings practice. based on compassion therapy, presenting techniques and ways to succeed in achieving hope, familiarity with health anxiety activities in patients with MS, compassionate understanding of fears and threats, and strategies for seeking immunity (de-shame) (explaining the evolved mind, social mind and sad mind and model explanation). Explanation of meditation exercises, assignments for the upcoming session
4	Compassionate awareness: Establishing an accepting and non-judgmental relationship with thoughts, feelings and behaviors (i.e. using mindfulness techniques). Seeing and hearing meditation, sitting meditation (presence of mind from breathing and body), walking with the presence of mind, practicing three-minute breathing space, recording adverse events are cause for concern, and daily activities plan to produce values in life, receiving feedback. . Today, the previous session, using the step of attitude change to improve satisfaction in areas where satisfaction is not enough, teaching attitude change based on the principles of cognitive therapy, teaching the technique of thinking in behavior, teaching the technique of familiarizing with high-risk behaviors, receiving feedback on the review of the previous volume Teaching how to use the strategy of changing goals and criteria using night vision and vigilance techniques, teaching how to change priorities and important areas using the past, receiving feedback. Review of the previous session, teaching the important principles of compassion, including the principle of lifestyle, the principle of seeking peace with a grieving person, explanation of meditation exercises, assignments for the next session.
5	Receiving feedback and reviewing the previous session, teaching the important principles of optimism, the principle of environment with friends, the principle of seclusion, the principle of calming breathing and feeling comfortable and ignoring and forgiving or the principle of putting off and postponing, accepting or forgetting, training Writing a letter based on compassion Teaching techniques based on empathy and building an empathetic relationship Moyer,

	explaining meditation exercises, assignments for the upcoming session, receiving feedback
6	Reviewing the previous session, teaching the important principles of compassion, including the principle of lifestyle, the principle of seeking peace with a grieving person, sitting meditation (awareness of breathing, body, sounds and thoughts), communicating with your thoughts and feelings, expanding them and accepting thoughts and emotions. Uncomfortable without judgment, discussing that "thoughts are not reality." Breathing relaxation solutions and obtaining effective social support... and providing the necessary feedback, reviewing the previous session and teaching breathing counting, teaching self-expression and facing one's inner needs and creating self-forgiveness and providing feedback, explaining meditation exercises, assignments for the next session
7	Three minutes of regular and confrontational breathing. Sitting meditation (awareness of the body, sounds and thoughts), realizing the relationship between activity and mood, making a list of pleasurable activities and activities that give one a sense of mastery. Explanation of meditation exercises, assignments for the upcoming session
8	Three minutes of regular breathing space and body check exercise, overview of the entire course, ways to maintain the gains learned, choosing a home exercise program that can be continued into the next month, discussing positive delaware and possible obstacles to the exercises after. From the end of the course and the completion of the questionnaire by the participants, the explanation of the meditation exercises, the assignments of the upcoming session, and the completion of the sessions

Implementation

In this research, after obtaining approval from the ethics committee, a written permission from the Islamic Azad University of Tunkabon branch to Tehran MS Association and a letter of introduction to work in the research environment. After introducing himself to the relevant officials, he explained the objectives of the research and the steps of doing the work to them. After obtaining the approval of the directorate and officials of the MS Association, the sampling work began. A clinical interview and an initial visit were conducted among patients with MS, and 60 people who met the following entry criteria were included in the study after obtaining informed consent. The research samples were selected in a purposeful way and based on the inclusion criteria. They were divided into an experimental group and a control group through random replacement (using a table of random numbers). After random replacement, in order to comply with the principle of random application, one of the groups was chosen again by chance as the intervention group (they receive a consolidated package) and the control group (the group that only receives drug treatments). All participants completed questionnaires of demographic characteristics, health anxiety questionnaire and

failure tolerance questionnaire. The experimental groups were subjected to the mentioned intervention. According to the objectives of the research, 3 months after the intervention, a meeting was held with the aim of evaluating the effectiveness of the intervention. Ethically, during the study, there was no relationship between the control and test groups. In the descriptive analysis of the data, the statistical indices related to each of the research variables were calculated. In the inferential statistics section, analysis of variance with repeated measurements and SPSS-22 software were used.

Results

The mean and standard deviation of the age of the subjects in the control group was 45.03 ± 4.59 and for the test group of the integrated package model was 45.03 ± 4.59 years and the comparison of the averages using variance analysis also indicated the absence of a significant difference in the average age. Also, the examination of the frequency difference in the two groups according to the results of the Chi-square test indicated no significant difference in the marital status, education level and income level in the experimental group and the control group.

Table 2. Comparison of mean and standard deviation of pre-test, post-test, follow-up of health anxiety

and tolerance of failure according to control and experimental groups					
Dependent variable	Exp.	Control			
	Phase	Mean	SD	Mean	SD
health anxiety	Pre-test	57/74	1/54	57/66	5/90
	Post-test	30/80	2/52	55/40	8/48
	Follow-up	40/14	4/15	60/91	5/70
failure tolerance	Pre-test	35/77	0/17	35/92	0/50
	Post-test	57/87	0/36	56/70	0/24
	Follow-up	55/40	0/41	56/82	0/26

First, the research data was separated into groups (evidence-experiment) and test (pre-test-post-test-follow-up) in terms of the normality of the data using Kolmogorov-Smirnov and Shapiro-Wilk normal distribution tests. The results of the Shapiro-Wilk normal distribution test in the group of the consolidated and evidence group showed that the assumption of normality of the data in health anxiety in the pre-test and post-test stages and failure tolerance in the pre-test and follow-up stages have a normal distribution. ($P < 0.01$). In order to investigate the effectiveness of the integrated package on the dimensions of health anxiety and failure tolerance, multivariate repeated measurement variance analysis was used. Therefore, first the assumptions of this test were examined for each variable. The results of Bartlett's sphericity test ($P < 0.001$, $X^2 = 440.218$) indicated compliance with the default of this test (correlation between dependent variables). Then the results of the Mbox test

were checked to check the homogeneity assumption of the covariance matrix, which showed that this assumption is not valid for the investigated components ($P < 0.001$, $1.472=7627$, $231F=629.145$, $\text{BoxM}=7627$). However, due to the high sample size of the two groups, it can be said that this test is resistant to violating this assumption. Then, the assumption of sphericity was implemented using Mochli's test for all the investigated variables. This test showed that this hypothesis is not valid for the variables of failure tolerance and health anxiety ($P < 0.001$) and the corrected results of Greenhouse Geisser should be used. Then, the assumption of homogeneity of error variance was checked using Levene's test. The results of this analysis showed that this hypothesis is valid for the health anxiety component ($P < 0.05$), but it is not valid for failure tolerance ($P < 0.05$). The results of multivariate tests are presented in full in Table 3.

Table 3. Results of multivariate tests to investigate the effectiveness of integrative treatment

Source	Test	Value	F	Df error	Sig	Eta sq.
Time	Pillai's trace	0/81	45/61	21	0/001	0/813
	Wilks' lambda	0/19	45/61	21	0/001	0/813
	Hotteling's trace	4/34	45/61	21	0/001	0/813
	Roy's largest root	4/34	45/61	21	0/001	0/813
Time*Group	Pillai's trace	0/78	37/32	21	0/001	0/78
	Wilks' lambda	0/22	37/32	21	0/001	0/78
	Hotteling's trace	3/55	37/32	21	0/001	0/78
	Roy's largest root	3/55	37/32	21	0/001	0/78

Based on the results, integrated therapy was meaningful in group factor ($P > 0.001$, $F=210.108$); time factor ($P > 0.001$, $F=194.589$); Interactive effect of time and group ($P < 0.001$,

$F=146.805$). Therefore, these results show that the intervention of the integrated package model is effective on the investigated dimensions.

Table 4. The results of the test to compare the between-group and within-group effects in the experimental and control groups

Variable	Source	Sum of squares	df	Mean square	F	Sig.	Eta sq.
health anxiety	Group	4101/03	1	4101/03	7816/8	0/001	0/897
	Time	2559/07	2	1279/53	43/16	0/001	0/662
	Time*Group	2118/68	2	1059/34	35/73	0/001	0/619
failure tolerance	Group	5416/21	1	5416/21	8327/2	0/001	0/923
	Time	1476/17	2	738/08	7451/9	0/001	0/853
	Time*Group	1419/97	2	709/98	7168/2	0/001	0/836

The results of the intergroup effect test in Table 4 showed that there is a significant difference between the control and control groups in the variables of health anxiety ($P < 0.001$) and failure tolerance ($P < 0.001$). The results of the intragroup effect test showed that the effect of time factor was significant for the variables of health anxiety ($P < 0.001$), failure tolerance ($P < 0.001$). The interaction effect of time \times group is also significant, and the results of this analysis are fully presented in Table 4. These results indicate the effectiveness of the training package intervention based on motivational

interviewing, therapy based on acceptance and commitment. Therapy focused on compassion on the investigated dimensions. The comparison of the averages indicated a decrease in the level of health anxiety and an increase in the tolerance of failure in the experimental group compared to the control group. After the effects of time, group and interaction became significant, the three modes of pre-test, post-test and follow-up were compared and analyzed separately for each variable, and the results are reported in Table 5.

Table 5. Benferoni's post hoc test results to investigate the effectiveness of integrative treatment

Comparison	health anxiety			failure tolerance		
	Mean diff	Std err.	Sig.	Mean diff	Std err.	Sig.
Pre-test – post-test	14/60	1/49	0/001	5/06	0/081	0/001
Post-test – follow-up	4/42	1/62	0/001	9/82	0/091	0/001
Pre-test – follow-up	7/17	1/59	0/001	8/23	0/099	0/001

The findings in Table 5 show a significant difference between pre-test and post-test in the two variables of health anxiety and failure tolerance ($P < 0.001$), in other words, the effect of the intervention is confirmed. There is a significant difference between pre-test and follow-up in both variables ($P < 0.001$). In other words, the effect of time is confirmed. A significant difference exists between post-test and follow-up in health anxiety and failure tolerance ($P < 0.001$). In the follow-up situation, health anxiety and failure tolerance have slightly decreased and increased. Therefore, the stability of the intervention is not confirmed for these two variables.

Conclusion

This study was designed and implemented with the aim of investigating the effect of the combined package on health anxiety and tolerance of failure in female patients with MS. In this study, it was observed that the results

related to the individual characteristics of the research units, which include patients, were not statistically significant in the two control and intervention groups in terms of individual characteristics, and in other words, the two groups were homogeneous in terms of these characteristics; Therefore, the comparison of two groups was done better according to the intervention.

The obtained results showed that the integrated package is effective in reducing failure tolerance and increasing health anxiety in multiple sclerosis patients and has a lasting effect (sustainability) over time. In the current explanation, it can be said that mindfulness exercises reduce many symptoms related to tolerance of failure and by not labeling and allowing thoughts to pass, it reduces the occurrence and frequency of negative thoughts. In explaining the findings of this research, it can be said that MS patients are exposed to many

psychological injuries due to many physical problems, they suppress their emotions and are not aware of their emotions. In other words, these patients show the characteristics of emotional dyslexia. People with emotional dyslexia are unable to find appropriate words to describe their emotions in expressing their emotions (Johan et al., 2020).

Based on the findings of the present study, the intervention of the educational package based on motivational interviewing, therapy based on acceptance and commitment, and therapy focused on compassion improved the tolerance of failure in people with MS. Tolerance of failure is a meta-emotional structure that measures the expectations of a person regarding the ability to tolerate negative emotions, evaluating the emotional situation in terms of acceptability, personal regulation, and the amount of attention attracted by negative emotions. On the other hand, mindfulness meditation is a program that relies on awareness. The presence of mind means that a person directs his awareness from the past and future to the present. When a person is present in the present, he sees reality with all its internal and external aspects and realizes that the mind is constantly ruminating and having an internal conversation due to the judgments and interpretations it makes (Neff et al., 2013). Mindfulness helps to respond effectively to difficult and complex situations. Situations in this mode are understood and seen more clearly. This process itself emerges through a change in "acuity of the senses" in which a person uses their apparent senses more accurately, which leads to a better understanding of situations and, as a result, an effective response to them (Przedwijiński et al., 2016). People generally pay more attention to many of their everyday issues, including their beliefs and certain events, and when they learn to let go of them, they will gain more awareness and acceptance. In this way, they will examine problems and issues with a clearer and more open mind (Pouyan Fard et al., 2020). Among the exercises that are carried out in the training package based on motivational interviewing, acceptance and commitment therapy, and compassion-focused therapy, is the exercise and examination of the body, which provides an opportunity to practice many mindfulness skills such as intentional orientation, purposeful attention. In a specific way, being aware of the distraction and gently

bringing it back to the present moment, openness, curiosity, acceptance and non-judgment towards experiences, regardless of whether they are pleasant or unpleasant, are simultaneously practiced (Gedik et al., 2020). Therefore, it can be said that reducing stress based on mindfulness through its techniques can increase failure tolerance. According to another finding of the present study, the relaxation exercises could lead to the improvement of failure tolerance in people with MS. In another explanation of the effectiveness of the training package based on motivational interviewing, therapy based on acceptance and commitment, and therapy focused on compassion, it can be said that mindfulness by strengthening cognitive coping processes and strengthening emotion regulation skills, problem solving training and ignoring techniques training, It provides protection in cases of bad performance, and by performing regular mindfulness exercises, it can create positive changes in some psychological functions, which will lead to the acquisition of self-management ability and flexibility in dealing with stressful events (Nayeb Hoseinzadeh et al, 2016).

In another explanation of the present finding, it can be said that, since motivational interviewing, therapy based on acceptance and commitment, and therapy focused on compassion are client-centered non-directive methods that increase the client's internal motivation towards change through the discovery and resolution of the client's doubts; Therefore, client's ambivalence plays a central role in motivational interviewing, and unlike other treatments, it directly raises and resolves resistance and ambivalence to change. This issue is very common in MS patients who have been suffering from this disease for a long time and the complications caused by this disease, who lose their motivation in the behaviors of tolerating failure and these behaviors are reduced or eliminated in them. Motivational interviewing is effective due to reducing resistance and strengthening documents and internal motivations, capacity and talent, increasing knowledge, motivating skills in starting and maintaining change and strengthening treatment results in the area of problems related to patients with MS. It can be considered that motivational interviewing increases the participation rate and success of subsequent pragmatic treatment methods, which

results in increased failure tolerance behaviors in patients (Pouyan Fard et al., 2020).

The analyzes show that the health anxiety scores of the experimental group have decreased significantly compared to the control group in the post-test and follow-up evaluation. In explaining this hypothesis, it can be said that anxiety is a response that is created against the demands that are imposed on the body and mind. The integrated closed approach is not fundamentally about developing any particular state of mind or body, but about being awake and aware of what is happening right now - in every moment. By paying full and direct attention to experience (both pleasant and unpleasant), one is likely to learn to relate differently to stress or pain or any other situation and to accept them patiently without judgment.

The emphasis of this treatment is on using techniques to reduce anxiety, and being aware of one's situation, letting go of the struggle and accepting the existing situation without judgment is the main and fundamental concept in integrated therapy. The main goal in the integrated package is the regular training of mindfulness in the present moment. The main goal in this treatment is to regularly train to be moment by moment aware of physical sensations, thoughts and emotions.

During the exercises, a person learns to consider his thoughts, emotions, and physical feelings as aspects of the experience that comes into consciousness and not to consider them as the absolute truth. This type of "being" with experiences can lead to changes in the way a person reacts, as well as the way a person copes with the problems that people have when facing psychological or physical issues. Exercises in mindfulness-based stress reduction therapy provide a new and personal way of coping with stress. External stressors are part of our lives and cannot be changed. However, methods of dealing with stress and how people respond to stress can be changed (Gedik et al., 2020). In general, the findings of this research support the use of the integrated package in improving health anxiety in patients with MS, because it increases a person's ability to pay attention to current moment-to-moment experiences in a non-judgmental manner. Therefore, it makes the patient resistant against ineffective mental engagement style with MS disease and its

accompanying consequences. As a result, this method of treatment as a complementary treatment along with other existing medical treatments can help in many psychological problems.

Limitations of the research of the statistical population, the study of a special group of the society, namely women with MS, was covered by the association of patients with MS, which makes it possible to generalize the results to other populations with caution. The participants participated in the experiment purposefully in the initial selection, so the results may have been affected by the effect of social desirability. Considering that this research was conducted on the community of women with MS under the coverage of the MS Patients Association, it is suggested to be conducted in other communities as well. One of the controversial and significant trends in the field of psychology and counseling, which has been widely paid attention to today, is the field of health. Therefore, it is suggested that counselors and health psychologists use the findings of this research.

Conflict of Interest

According to the authors, this article has no financial sponsor or conflict of interest.

References

- Akbari, A., Ahmadi, F., Jalili, E., & Khazaei, S. (2020). The effect of relaxation technique (Jacobsen and Benson) on depression, anxiety, and stress in patients with multiple sclerosis. *Current Psychiatry Research and Reviews Formerly: Current Psychiatry Reviews*, 16(3), 213-219.
- Bassi, M., Grobberio, M., Negri, L., Cilia, S., Minacapelli, E., Niccolai, C., ... & Delle Fave, A. (2021). The contribution of illness beliefs, coping strategies, and social support to perceived physical health and fatigue in multiple sclerosis. *Journal of clinical psychology in medical settings*, 28(1), 149-160.
- Doskas, T., Vavougios, G. D., Karampetsou, P., Kormas, C., Synadinakis, E., Stavrogianni, K., ... & Vadikolias, K. (2021). Neurocognitive impairment and social cognition in multiple sclerosis. *International Journal of Neuroscience*, 1-16.
- Gedik, Z., & Idiman, E. (2020). Health-related quality of life in multiple sclerosis: Links to mental health, self-esteem, and self-

- compassion. Dusunen Adam: Journal of Psychiatry & Neurological Sciences, 33(1).
- Hanna, M., & Strober, L. B. (2020). Anxiety and depression in multiple sclerosis (MS): antecedents, consequences, and differential impact on well-being and quality of life. *Multiple Sclerosis and Related Disorders*, 44, 102261.
- Hassan, M. A. S. (2021). Fatigue in A sample of Egyptian Multiple Sclerosis Patients: A Cross Sectional Study. *International Journal of Medical Arts*, 3(3), 1681-1688.
- Jeon, S. Y., Chung, S. S., & Rho, J. O. (2020). Study on health anxiety issues, health-promoting behavior, and quality of life of middle-aged women in Jeonbuk area. *Journal of Nutrition and Health*, 53(6), 613-628.
- Koltuniuk, A., & Rosińczuk, J. (2021). The Levels of Depression, Anxiety, Acceptance of Illness, and Medication Adherence in Patients with Multiple Sclerosis-Descriptive and Correlational Study. *International Journal of Medical Sciences*, 18(1), 216.
- Lebel, S., Mutsaers, B., Tomei, C., Leclair, C. S., Jones, G., Petricone-Westwood, D., ... & Dinkel, A. (2020). Health anxiety and illness-related fears across diverse chronic illnesses: A systematic review on conceptualization, measurement, prevalence, course, and correlates. *Plos one*, 15(7), e0234124.
- Lo, L. M. P., Taylor, B. V., Winzenberg, T., Palmer, A. J., Blizzard, L., Ahmad, H., ... & van der Mei, I. (2021). Estimating the relative contribution of comorbidities in predicting health-related quality of life of people with multiple sclerosis. *Journal of Neurology*, 268(2), 569-581.
- Lutterotti, A., Hayward-Koennecke, H., Sospedra, M., & Martin, R. (2021). Antigen-specific immune tolerance in multiple sclerosis—promising approaches and how to bring them to patients. *Frontiers in immunology*, 12-763.
- Marrie, R. A., Walld, R., Bolton, J. M., Sareen, J., Patten, S. B., Singer, A., ... & CIHR Team in Defining the Burden and Managing the Effects of Psychiatric Comorbidity in Chronic Immunoinflammatory Disease. (2021). Effect of comorbid mood and anxiety disorders on breast and cervical cancer screening in immune-mediated inflammatory disease. *PloS one*, 16(8), e0249809.
- Melehin, A. I. (2021). The role of gastrointestinal specific anxiety and alexithymia as predictors of the severity of irritable bowel syndrome in women. *Neurology Bulletin*, 53(1), 34-40.
- Movahrad, F., Seyed Alitabar, S. H., Mohammadi, A., & Hoseinifard, V. (2023). The effectiveness of strength-based counseling on the tendency toward marital infidelity and self-compassion of conflicted couples. *Journal of Assessment and Research in Applied Counseling*, 13-21. [In Persian]
- Nayeb Hoseinzadeh, S., Fatollahzadeh, N., Saadati, N., & Rostami, M. (2016). The effectiveness of acceptance and commitment training on improving the quality of life and self-compassion of the mothers of educable disabled children. *Journal of Psychological Studies*, 12(3), 103-122. doi: 10.22051/psy.2016.11517.1219 (In Persian)
- Neff, K., & Tirsch, D. (2013). Self-compassion and ACT. *Mindfulness, acceptance, and positive psychology: The seven foundations of well-being*, 78-106.
- Pires, L. R., Amado, I. R., & Gaspar, J. (2020). Dissolving microneedles for the delivery of peptides—Towards tolerance-inducing vaccines. *International Journal of Pharmaceutics*, 586, 119590.
- Platero, J. L., Cuerda-Ballester, M., Ibáñez, V., Sancho, D., Lopez-Rodríguez, M. M., Drehmer, E., & de la Rubia Ortí, J. E. (2020). The impact of coconut oil and epigallocatechin gallate on the levels of il-6, anxiety and disability in multiple sclerosis patients. *Nutrients*, 12(2), 305.
- Pouyanfard, S., Mohammadpour, M., ParviziFard, A. A., & Sadeghi, K. (2020). Effectiveness of mindfulness-integrated cognitive behavior therapy on anxiety, depression and hope in multiple sclerosis patients: a randomized clinical trial. *Trends in psychiatry and psychotherapy*, 42, 55-63.
- Przedziecki, A., & Sherman, K. A. (2016). Modifying affective and cognitive responses regarding body image difficulties in breast cancer survivors using a self-compassion-based writing intervention. *Mindfulness*, 7(5), 1142-1155.
- Rinker II, J. R., Meador, W. R., & King, P. (2020). Randomized feasibility trial to assess tolerance and clinical effects of lithium in progressive multiple sclerosis. *Heliyon*, 6(7), e04528.
- Russell, R. D., Black, L. J., Pham, N. M., & Begley, A. (2020). The effectiveness of emotional wellness programs on mental

- health outcomes for adults with multiple sclerosis: a systematic review and meta-analysis. *Multiple sclerosis and related disorders*, 44, 102171.
- Salaman, M. R., & Gould, K. G. (2020). Breakdown of T-cell ignorance: The tolerance failure responsible for mainstream autoimmune diseases?. *Journal of Translational Autoimmunity*, 3, 100070.
- Sauder, T., Keune, P. M., Müller, R., Schenk, T., Oschmann, P., & Hansen, S. (2021). Trait mindfulness is primarily associated with depression and not with fatigue in multiple sclerosis (MS): implications for mindfulness-based interventions. *BMC neurology*, 21(1), 1-7.
- Shin, C., Ko, Y. H., An, H., Yoon, H. K., & Han, C. (2020). Normative data and psychometric properties of the Patient Health Questionnaire-9 in a nationally representative Korean population. *BMC psychiatry*, 20(1), 1-10.
- Tabatabaei, R. H., & Bolghan-Abadi, M. (2020). Effectiveness of solution-focused group therapy in generalized anxiety disorder in patients with multiple sclerosis. *Zahedan Journal of Research In Medical Sciences*, 22(2).
- Tijhuis, F. B., Broeders, T. A., Santos, F. A., Schoonheim, M. M., Killestein, J., Leurs, C. E., ... & Douw, L. (2021). Dynamic functional connectivity as a neural correlate of fatigue in multiple sclerosis. *NeuroImage: Clinical*, 29, 102556.
- Vidaković, M. R., Šimić, N., Poljičanin, A., Ivanišević, M. N., Ana, J., & Đogaš, Z. (2021). Psychometric properties of the Croatian version of the depression, anxiety, and stress scale-21 and multiple sclerosis impact scale-29 in multiple sclerosis patients. *Multiple Sclerosis and Related Disorders*, 50, 102850.
- Wallis, O., Bol, Y., Köhler, S., & van Heugten, C. (2020). Anxiety in multiple sclerosis is related to depressive symptoms and cognitive complaints. *Acta Neurologica Scandinavica*, 141(3), 212-218.
- Wilson, A. C., Mackintosh, K., Power, K., & Chan, S. W. (2019). Effectiveness of self-compassion related therapies: A systematic review and meta-analysis. *Mindfulness*, 10(6), 979-995.