

Comparing the effectiveness of schema therapy and acceptance and commitment therapy on chronic fatigue syndrome in patients with multiple sclerosis

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ABSTRACT

This study aimed to compare the effectiveness of schema therapy and acceptance and commitment therapy on chronic fatigue syndrome in patients with multiple sclerosis. The research design was quasi-experimental with a pre-test-post-test design with two experimental groups and, one control group and a one-month follow-up phase. The statistical population of the present study included all the patients with multiple sclerosis in Markazi Province in 2021. This research selected the statistical sample size of 45 people by available sampling. It included 3 groups of 15 people, including treatment groups based on commitment and acceptance, schema therapy and control group. For both experimental groups, the relevant therapeutic intervention was held in 120-minute sessions once a week. In contrast, the people in the control group did not receive the aforementioned therapeutic intervention. Chalder et al.'s (1993) Chronic Fatigue Scale was used to collect data. In order to statistically analyze the data, analysis of covariance test and SPSS software were used. The statistical analysis of the data showed that the implementation of the schema therapy approach on chronic fatigue was insignificant. However, the acceptance and commitment approach had a significant effect on reducing chronic fatigue scores. Also, comparing the effect of two therapeutic approaches showed significant differences between the effectiveness of two therapeutic approaches, schema therapy and acceptance and commitment therapy, on chronic fatigue syndrome. The results indicate that the therapeutic approach based on acceptance and commitment has more effects on reducing chronic fatigue symptoms than schema therapy.

Keywords: Acceptance and commitment therapy, schema therapy, chronic fatigue, multiple sclerosis.

1 Introduction

One of the most debilitating symptoms of this disease is fatigue, which affects 75-90% of multiple sclerosis patients. Chronic fatigue is defined as the loss of physical and mental energy and affects different aspects of a person's life (van der Borg et al., 2021). It causes problems such as disruption in contact with family and surrounding people, continuing employment and social responsibilities, and the individual's quality of life (Dayapoğlu & Tan, 2012; Shareh & Robati, 2021). In other words, chronic fatigue is a complex, tiring and long-term medical disease diagnosed with the required primary symptoms and criteria and often includes a wide range of symptoms. It is diagnosed as an exacerbation of symptoms after minor physical or mental activity and is also known as post-exercise weakness and body pain (Rahmani, 2020).

Researchers believe that improving the mental condition of multiple sclerosis patients and reducing the risk of recurrence of this disease improves people's life satisfaction. It leads them to more success, higher levels of health, more successful social communication, and higher physical and mental health (Hejazizadeh, Pazokian, & Abdi, 2020).

Meanwhile, schema therapy is a new form of cognitive behavioral therapy that is used for a wide range of psychological disorders. Schemas are structures formed based on reality or experience and influence people as mediators of behavioral responses (Otis, Keller, & Chevalier, 2021). Schema therapy is a relatively new and integrated treatment method mainly based on expanding classical cognitive behavioral therapy concepts and methods (Pugh, 2015). In addition, treatment based on acceptance and commitment is also one of the behavioral therapies based on mindfulness, whose effectiveness has been found to treat a wide range of clinical conditions. Treatment based on acceptance and commitment assumes that the psychological processes of the human mind are often destructive and cause psychological suffering. ACT has six underlying processes that lead to cognitive flexibility. These six processes are acceptance, failure, self as a context, connection with the present and now, values, and committed action (Hasan Larijani, Hossein Sabet, & Borjali, 2020). According to the mentioned contents, the present study compared the effectiveness of schema therapy and acceptance and commitment therapy on chronic fatigue syndrome in patients with multiple sclerosis.

2 Methods and Materials

2.1 Study Design and Participants

The research design was quasi-experimental with a pre-test-post-test design with two experimental groups and, one control group and a one-month follow-up phase. The statistical population of the present study included all the patients with multiple sclerosis in Markazi Province in 2021. This research selected the statistical sample size of 45 people by available sampling. It included 3 groups of 15 people, including treatment groups based on commitment and acceptance, schema therapy and control group. For both experimental groups, the relevant therapeutic intervention was held in 120-minute sessions once a week. In contrast, the people in the control group did not receive the aforementioned therapeutic intervention.

2.2 Measures and Interventions

2.2.1 Chronic Fatigue Syndrome

The chronic fatigue questionnaire was created by Chalder et al. (1993) and its purpose is to measure chronic fatigue and consists of 14 items that are scored on a 4-point Likert scale. The validity and reliability of this scale was examined and confirmed by Chalder et al. (1993). The range of scores of this questionnaire also varies between 0 and 42, and the total score of the scale is calculated by summing up all items (Chalder et al., 1993).

2.2.2 ACT

The members of the acceptance and commitment therapy experimental group received acceptance and commitment therapy according to Hayes et al.'s (2006) treatment program during 8 90-minute sessions (Hayes et al., 2006).

2.2.3 Schema Therapy

The members of the acceptance and commitment therapy experimental group received schema therapy according to Young et al.'s (2006) treatment program during 8 90-minute sessions (Young, Klosko, & Weishaar, 2006).

2.3 Data Analysis

In order to statistically analyze the data, analysis of covariance test and SPSS software were used.

3 Findings

The descriptive findings are reported in the Table 1.

Table 1

Descriptive findings (Mean and Standard Deviation)

Variable	Stage Group	Pre-test		Post-test		Follow-up	
		M	SD	M	SD	M	SD
Chronic Fatigue	ST	37.73	5.69	32.73	8.50	33.26	8.74
	ACT	38.60	7.45	27.73	8.09	28.40	7.11
	Control	38.20	6.56	38.00	4.61	-	-

According to [Table 1](#), in the post-test, the mean scores of the experimental groups decreased. As seen, in the post-test,

the average chronic fatigue scores of the experimental group decreased. Analysis of covariance test was used to check the significance of the changes. For this purpose, the normality of data distribution was checked using the Shapiro-Wilk test. Also, the results of Levene's test for both groups showed that the assumption of equality of variances is valid ($p < 0.05$). Also, the assumption of homogeneity of the regression slope was maintained for the experimental and control groups ($p < 0.05$).

Table 2

ANCOVA results

Variable	Effect	SS	Df	MS	F	p	Eta ²
Chronic Fatigue	Pre-test	161.624	1	161.624	3.357	0.074	0.076
	Group	820.748	2	410.374	8.522	0.001	0.294
	Error	1974.243	41	48.152			
	Total	51405.000	45				

According to the [Table 2](#), the significance level of the test for the chronic fatigue variable is significant ($P < 0.05$). There is a significant difference between the four groups in the post-test scores after removing the effect of the pre-test scores.

4 Discussion and Conclusion

the present study compared the effectiveness of schema therapy and acceptance and commitment therapy on chronic fatigue syndrome in patients with multiple sclerosis.

The statistical analysis of the data showed that the implementation of the schema therapy approach to chronic fatigue was insignificant. However, the acceptance and commitment approach had a significant effect on reducing chronic fatigue scores. Also, comparing the effect of two therapeutic approaches showed significant differences between the effectiveness of two therapeutic approaches, schema therapy and acceptance and commitment therapy, on chronic fatigue syndrome. The results indicate that the therapeutic approach based on acceptance and commitment has more effects on reducing chronic fatigue symptoms than schema therapy. This result was consistent with some previous findings.

Table 3

LSD post-hoc test

Variable	Groups	Mean diff.	SE	p
Chronic Fatigue	ST ACT	5.439	2.545	0.039
	Control	5.030	2.537	0.054
	ACT Control	*10.469-	2.536	0.0001

As seen in the [Table 3](#), the results of the LSD follow-up test showed that the implementation of the schema therapy approach on chronic fatigue was not significant, but the acceptance and commitment approach had a significant effect on reducing chronic fatigue scores. The results regarding the comparison of the effect of two therapeutic approaches showed that there are significant differences between the effectiveness of two therapeutic approaches, schema therapy and acceptance and commitment therapy on chronic fatigue symptoms. The results indicate that the therapeutic approach based on acceptance and commitment has had more effects on reducing chronic fatigue symptoms compared to schema therapy.

5 Limitations and Suggestions

Among the limitations that can be considered in this research are: 1- This research was conducted on only 45 people from the population of patients with multiple sclerosis in Markazi Province in 2021, and it is necessary to be careful in generalizing the results. 2- Lack of attention and inappropriate cooperation of some subjects in completing questionnaires was another limitation of this research. 3- The cross-sectional nature of the research method is another limitation of the present study.

Similar studies should be conducted on other patients with multiple sclerosis so we can speak more confidently about the accuracy of the results. It is suggested to use material and spiritual incentives to increase the motivation to cooperate in research. It is suggested to conduct longitudinal studies on this issue. Based on the results of this research, counseling centers can plan and implement treatment courses based on acceptance and commitment in order to improve the health-oriented lifestyle of these patients and increase the perception of the disease. It is also suggested that health psychologists in hospitals, in addition to paying attention to the amount of pain and disease perception in patients with chronic pain, pay more attention to the issue of psychological capital in patients. Finally, it is suggested that by providing booklets with few pages but simple and practical in the field of topics related to schemas and the approach of acceptance and commitment and the role of these factors in dealing with the disease and donating it to the patients, a step should be taken to improve the awareness of the patients.

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Declaration of Interest

The authors of this article declared no conflict of interest.

Ethics principles

In this research, ethical standards including obtaining informed consent, ensuring privacy and confidentiality were observed.

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