Compare Effectiveness of Emotional Schema Therapy and Mindfulness-Based Cognitive Therapy on Cognitive Distortions in Women with Panic Disorder

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Abstract

The purpose of the present research was to compare the effectiveness of emotional schema therapy and mindfulness-based cognitive therapy on reducing cognitive distortions in women with panic disorder. This quasi-experimental study was a pretest-post test experiment with 2 months follow-up and control group. The statistical population were women with panic disorder that referred to a psychiatric hospital in Tehran during 2017. 45 people were selected by available and purposive sampling method. Data were analyzed by variance analysis with repeated measurement of single-variable covariance analysis. The results showed that emotional schema therapy and mindfulness-based cognitive therapy reduced the cognitive distortion of the two experimental groups, but there was no significant difference in the effectiveness of the two therapies, also these two therapies were equally effective at follow-up was no significant. Therefore, these two therapies can be used either way to decrease cognitive distortion.

Keywords: Cognitive distortions, emotional schema therapy, mindfulness-based cognitive therapy, panic disorder

Introduction

The panic disorder is a repeatedand sudden attack of fear and impending death, during which at least four of the cognitive and physical symptoms occur, its life time rate is between 3.5% and 4.7% (Habadi, el al., 2019). An important issue in panic disorder is cognitive distortions which refers to irrational thoughts that cause anxiety and mental disorders (Katona, et al., 2015). So far, effective treatments for panic disorder have been proposed, but only in half of the cases, recovery after treatment is maintained (Shahriari, et al., 2018). One of the effective interventions is emotional schema therapy (Leahy, 2015). Emotional schema therapy refers to the beliefs and strategies used when experiencing emotion. Rezaee, et al. (2017) showed that emotional schema therapy was effective in reducing the symptoms of generalized anxiety disorder. On the other hand mindfulness-based cognitive therapy is another effective intervention. Parsons, et al.(2017)found that m indfulness-based cognitive therapy was effective in reducing anxiety. Given the prevalence of panic in Iran and among women and the cost of treatment, the implementation and comparison of these two treatments affecting panic disorder, which reduces cognitive distortion and anxiety, seems

necessary. Therefore, the present research compares the effectiveness of emotional schema therapy and mindfulness-based cognitive therapy on reducing cognitive distortions in women with panic disorder.

Method

The present study was quasi-experimental with pre-test, post-test design with two-month follow-up and control groups. The study statistical population was all women with panic disorder who had referred to the 505 th Army Psychiatric Hospital of Tehran in 2017. Among the patients, 45 were selected by available and purposive sampling method and divided into two experimental groups and one control group (15 people in each group). The pre-test was then performed, and then the interventions were performed only in experimental groups consisting of eleven 90-min sessions, and after two months, the follow-up period was implemented. In order to analyze the data, analysis of variance with repeated measurement and analysis of univariate covariance were used. The research tools were as follows:

Cognitive distortions scale: The present scale was designed by Abdollahzadeh and Salar to raise awareness of cognitive distortions, obtained Cronbach's alpha for total scale 0.80. (Jelokhanian, et al., 2011). In the present study, the internal consistency with Cronbach alpha was 0.82.

Panic belief inventory: This inventory was developed by Greenberg which Wenzel, et al. (2006) reported the internal consistency by Cronbach's alpha of 0.95. In the present study it was 0.92.

Emotional schema therapy: Emotional schema therapy sessions were designed based on Leahy (2015) model.

Mindfulness-based cognitive therapy: Mindfulness-based cognitive therapy sessions were based on the Segal (2012)model. Sohrabi, et al. (2012) reported that these sessions reduced anxiety by 72.4%.

Findings

The data normalization were observed by Kolmogorov-Smirnov test. The Levene test showed that the homogeneity of variance was not violated except for the case of post-test and follow-up scores. The results of Mauchly sphericity test showed that there w heterogeneity of covariance and due to the violation of this hypothesis, the correction option of Greenhouse- Geisser test has been used.

Table 1 shows the results of analysis of variance in repeated measurements to examine cognitive distortion in intragroup (time) and intergroup effects (treatment and control groups), which the size of the main effect of time with P = 0.001 and F (1.06) = 309.1 shows a significant difference and 0.88 of the intragroup changes can be explained by the effect of time. About the intragroup interactive effect, there is also a significant difference between the time and treatment and control groups with P= 0.001 and F (2.12)= 80.18 and 0.79 of the interaction between time and group can be explained. In the intergroup effect, as can be seen, the intergroup effect is significant. P= 0.001 and F(2.24) = 42.14 indicates the comparability of cognitive distortion between the treatment and the control groups. Also, 66% of the changes between groups can be explained.

Table 1. Results of analysis of variance with repeated measurements in intragroup and intergroup effects

Source	Test	Sum of squares	Degree of freedom	Mean squares	F value	Significance level	Effect size
Time	Greenhouse-geisser	3499.60	1.06	3297.92	309.01	0.001	0.88
Time*Group	Greenhouse-geisser	1816.89	2.12	855.71	80.18	0.001	0.79
Error	Greenhouse-geisser	475.64	44.56	10.67			
Y-intercept		576240.00	1	576240.00	12286.42	0.000	0.99
Group		3952.84	2	1976.42	42.14	0.000	0.66
Error		1969.82	42	46.90			

The F values are significant for differences between different tests and between different groups (P<0.01). Therefore, the duality relationship between intergroup and intragroup effect was investigated using pair wise comparisons in Table 2, and due to non-compliance with the hypothesis of homogeneity of variances in post-test and follow-up, Dunnett's test has been used. There is no significant difference between the effects of the two treatments on cognitive distortion scores. However, the differences between each of these treatments and the control group are significant. In other words, although there is no significant difference between the two treatments, each alone is effective in reducing cognitive distortion scores. In addition, the intragroup effect of time has been examined. There is a significant difference between pre-test scores of cognitive distortion and post-test and follow-up scores. In other words, treatment methods are effective, but there is no significant difference between post-test scores of cognitive distortion and follow-up scores.

Table2. The results of the mean of intergroup and intragroup variables.

Source (I)	Source (J)	Mean difference I- J	Standard deviation	Significance level
Emotional schema therapy	mindfulness-based cognitive therapy	-1.18	1.11	0.646
	Control	-12.02	1.55	0.001
Mindfulness-based cognitive therapy	Control	-10.84	1.61	0.001
Pretest	Posttest	10.86	0.60	0.001
	Follow-up	10.73	0.61	0.001
Posttest	Follow-up	-0.13	0.12	0.855

Discussion and Conclusion

The results showed that two therapies were effective in reducing the cognitive distortions of women with panic attacks, but there was no significant difference between the two methods. This result was in line with (Rezaee, et al., 2017). (Shahmoradi, et al., 2018) and (Ninomiya, et al, 2020). Emotional schema therapy can also be used to reduce cognitive distortions in patients with panic disorder by challenging beliefs and strategies. Mindfulness-based cognitive therapy provides the conditions for a person not to fall into the trap of cognitive distortion and thus reduces anxiety, whereas attention exercises in mindfulness change the pattern of problematic schemas.

Reducing the number of schema therapy sessions was one of the limitations of the research. It is suggested that the effectiveness of the above treatments be studied and compared in different groups, including different ages, men and that the follow-up time be increased to at least 6 months.

Acknowledgments

Conflicts of interest

The authors did not declare conflict of interest.

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