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Neuro-Cognitive Remediation of Emotion Processing in Patients with Borderline Personality Disorder through Psychotherapy

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Abstract

Dynamic Deconstructive Psychotherapy has used neuroscience findings to propose the specific neuroaffective deficits in processing of the emotion experiences as etiology of the borderline personality disorder. The purpose of this study was to evaluate the efficacy of the Dynamic Deconstructive Psychotherapy to improve the symptoms in patients diagnosed with the borderline personality disorder by remediation of neuro-affective defects. This study was designed as a randomized controlled trial using the pre-test, post-test and a control group. Thirty patients who were diagnosed with borderline personality disorder meeting the inclusion criteria, randomly divided into two groups. Both groups evaluated using both Borderline Evaluation of Severity over Time (BEST) and Patient Health Questionnaire Mood Scale (PHQ-9) questionnaires at the baseline and the over course of the treatment. Data analysis using repeated measures ANOVA indicated that the effect of measuring time (p=0.001) and time/group (p=0.010) on linear combination of the severity of borderline disorder and depression were significant. This result supports the efficacy of Dynamic Deconstructive Psychotherapy based on the neurocognitive remediation of the emotion processing using association, attribution and alterity techniques.

Keywords: Borderline Personality Disorder, Neuro-cognitive, Emotion Possessing, Remediation, Psychotherapy.

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1. Introduction and preliminaries

Borderline personality disorder is a chronic debilitating syndrome and also the most common personality disorder in psychiatric settings (1). This disorder is associated with a high utilization rate of medical and psychiatric services (2) and has a significant comorbidity with other mental disorders (2). Different approaches to the etiology of this disorder have considered various speculations. Dynamic Deconstructive Psychotherapy (DDP), relying on the latest findings of neuroscience, has proposed the emotion processing hypothesis for etiology of this disorder (3). According to this hypothesis, the main problem of borderline personality disorder are the deficits in the patients emotional processing, which are generally called neuro-affective deficits (4). These deficits are not a problem in person's intelligence, but rather they are the problems in identifying and confirming emotions, integrating complicated attributions of these experiences, and the ability to objectively and externally measure the authenticity of these attributions. These three neuro-affective functions are called association, attribution and alterity, respectively (3). Dynamic Deconstructive Psychotherapy attempts to address the neurocognitive remediation of emotion processing in four stages of therapy, through the techniques of association, attribution, and alterity, so that the clients can identify, confirm, and tolerate the painful emotions and conflicts in their consciousness (5).

Previous studies have demonstrated the effectiveness of this therapeutic model on borderline patients in Western countries, and they have also reported a large effect size on improvement of this disorder (4, 6, 7, 8). Approximately 90% of patients who have stayed in DDP for a full year achieve significant improvements in symptoms and functions (3). Therefore, the purpose of the present study was to investigate the efficacy of Dynamic Deconstructive Psychotherapy through remediation of neuro-affective deficits in patients with borderline personality disorder, leading to improvement of their disorder and depression symptoms in a randomized controlled trial.

The increasing prevalence of this disorder in Iranian society and borderline patient’s characteristic (9) require the introduction of reliable, effective and time-limited therapies. Therefore, the results of this research on the effectiveness of DDP in the Iranian society can take some effective steps towards increasing our knowledge of the etiology, especially from the neuroscience perspective, and treatment of this disorder.

2. Treatment Model

Dynamic Deconstructive Psychotherapy (4) is a manual-based treatment with a limited time between 12 and 18 months. DDP has been designed for borderline patients with complicated behavioral problems, like drug and alcohol dependency, self-injury, frequent suicide attempts and eating disorder. This treatment combines the elements of the neuroscience, object relations theory and Derrida’s Deconstruction Philosophy (10). Treatment is performed in four stages as follows: the first stage involves establishing the therapy framework and also the therapeutic alliance. The therapist focuses on framing the thematic question of this stage in the form of three safety concerns, including caring, respect and containment. One of the most important tasks in the first stage is learning the identification and verbal expression of emotional experiences through association techniques. Within the second stage, the patient continues to explore and investigate his/her new interpersonal experiences and becomes more attentive to the way he/she attribute meaning to his/her experiences. The therapist uses attribution techniques to help the patient develop a more complex and integrated view of his experiences. In the third stage, the patient begins to evaluate his/her own realistic attributions and mourns the loss of his/her idealized fantasies

about self and others. Other major themes of this stage are facing adult responsibilities and relinquishing the sick role. The successful sign of the last stage is characterized by moving towards view of self and other that is realistic, and also gaining capacity to tolerate loss and sadness (3).

3. Method

This study was a controlled experimental design along with pre-test/post-test and a control group. The sample of the present study included 30 patients who were diagnosed with Borderline Personality Disorder according to structured clinical interviews (SCID-II) and psychiatric diagnosis in psychiatric and psychological clinics in Gonbade-Kavos city. Participants who have met the inclusion and exclusion criteria for the research were randomly assigned to experiment and control group using random number generation method. The age range of participants was between 18 and 40 years old. After agreeing to participate in the research and obtaining written informed consent from the participants, individuals were randomly assigned to two groups, i.e. the experimental and the control groups. The experimental group underwent DDP and in the control group the participants received monthly group sessions for medication management as well as life skills training by other therapists. The clinical supervision process was conducted under the supervision of an experienced and expert clinical supervisor (RJG) throughout the treatment. Due to language constraints, the transcription of one session was weekly typed and after being translated, it was sent to the clinical observer to evaluate the treatment compliance and also to provide feedback. The acceptable adherence to treatment based on Goldman and Gregory's research (11) has been reported as 70%. In this study, the adherence to DDP model was 74.9%.

The primary measurement results of this study included assessing the severity of borderline disorder symptoms using Borderline Evaluation of Severity over Time (BEST) Questionnaire as well as the measurement of depression by the PHQ-9 patient health questionnaire. Participants were evaluated by an independent research collaborator in five stages (baseline, third month, sixth month, ninth month and twelfth month). Data were analyzed using SPSS 19 software and repeated measures ANOVA.

4. Second section

The number of subjects in the experimental group and the control group was 15. The mean age and standard deviation in the experimental group were 28.08 and 5.72, and 26.60 and 6.853 in the control group, respectively. Participants in the control group included 8 women (53.3%) and 7 men (46.7%). Also in the experimental group, there were 10 women (66.7%) and 5 men (33.3%). In the experimental group, 10 people were single (66.3%) and 5 were married (33.3%). In the control group, the number of single and married people was 12 (80%) and 3 (20%), respectively.

The mean and standard deviation of the participants' scores in the severity of the borderline personality disorder for the experimental group at the baseline was 51.363±6.542 and in the twelfth (post-test) month it was ±41.06±8.522, while this score for the control group was obtained as 5.672±51.66 and ± 52.46±7.029, respectively. For depression, the scores of the experimental group at the arrival time and in the 12th month were 19.77±4.187 and 6.430±13.93 and for the control group the scores were 3.377±19.53 and 4.660±18.60, respectively. After examining the assumptions of the repeated ANOVA and confirmation of them, according to Table 1 the results of multivariate test indicate that the effect of measuring time and time/group on the linear combination of severity of BPD and depression were significant.

Table 1. Multivariate Test of the Effect of Time and the Interactive Time-Group Effect

Within Subjects Effect		Value	F	Hypothesis df	Error df	Sig.
Time	Wilks' Lambda	.783	3.604[a]	8.000	222.000	.001
Time * Group	Wilks' Lambda	.836	2.600[a]	8.000	222.000	.010

In the next step, the significance and non-significance of the whole model and the independent variable's individual effect on the dependent variable were considered. Table 3 shows that the effectiveness of DDP on the borderline personality disorder symptoms during the 12-month period and the five stages of assessment have resulted in a significant change ($p<0.03$), but the change made in depression was not significant ($p=0.177$).

Table 2. Univariate Test for Severity of Borderline Disorder and Depression

Source	Measure	Type III Sum of Squares	df	Mean Square	F	Sig.
group	Best	937.500	1	937.500	10.208	.003
	PHQ	119.707	1	119.707	1.916	.177

Figure 1 shows the changes in participants' scores for the severity of borderline disorder and depression. As can be seen, there is a significant reduction in scores.

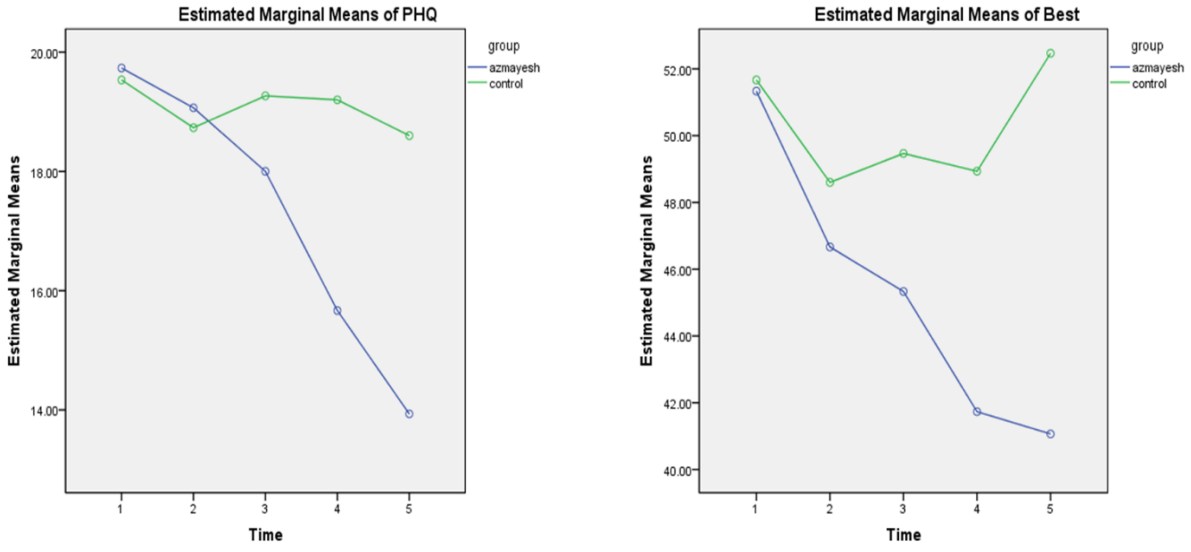

Figure 1. Changes in participants' scores in 5-stage assessment of the severity of borderline disorder and depression variables

5. Conclusion

The present study aimed at investigating the effectiveness of Dynamic Deconstructive Psychotherapy in improvement of the disorder symptoms and depression in patients with borderline personality disorder through remediation of neuro-affective deficits. According to the findings of the research, DDP has led to a reduction in participants' scores for borderline and depression symptoms. This decrease in disorder symptoms was significant during the one-year treatment, but the decrease in depression scores was not significant.

The effectiveness of DDP for improvement of central symptoms of the disorder and depression in borderline patients has been demonstrated in the previous controlled trials (7, 8, 10, 12). This confirms the main hypothesis of DDP indicating the improvement of neuro-affective deficits through attribution, association, and alterity techniques.

The small size of the sample and the use of self-reporting tools created some limitations for the current research. Therefore, more controlled trials are needed to examine the effectiveness of this therapeutic model with a larger number of samples, and also to examine the durability of its effect on Iranian society. Taking these limitations into account is critical in making conclusions based on the findings. The strength of this study was the application of this treatment to the Iranian sample for the first time in a randomized controlled trials with continuous clinical supervision. Such research, conducted with the purpose of introducing evidence-based models, has both theoretical and practical implications for researchers and therapists.

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