ORIGINAL ARTICLE

The Effectiveness of Group Therapy based on Mentalization and Dialectical Behavior on Clinical Symptoms of Borderline Personality Disorder: A Randomized Controlled Clinical Trial

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Abstract

Background: Dialectical Behavior Therapy (DBT) and Metalization-based Treatment (MBT) are two approaches to the treatment of Borderline Personality Disorder (BPD). The present study aimed to investigate the clinical outcomes of dialectical behavior group therapy and metallization-based group therapy on reduction of the severity of symptoms in patients with BPD.
Methods: This is a single-blind randomized controlled clinical trial conducted on 36 patients diagnosed with BPD by a psychiatrist. They were examined by a semi-structured clinical interview. Data were collected from March 2017 to June 2017. The participants were categorized into intervention and control groups. Before, immediately and two months after the intervention, the participants filled out the Borderline Personality Disorder Severity Index (BPDSI), Beck Anxiety Inventory (BAI), and Beck Depression Inventory-II (BDI-II) questionnaires.
Results: The two group therapy based on MBT and DBT were effective in reducing the symptoms of borderline personality disorder equally (P=0.4). Both treatments were more effective than the control group receiving only medication (P<0.001). This improvement was persistent two months after the intervention (P<0.001).
Conclusion: The results of the study revealed that group psychotherapy based on metallization and dialectical behavior combined with pharmacotherapy is considerably more effective than treatment with pharmacotherapy. Metallization can be a common factor in any successful treatment of BPD.
Trial Registration Number: IRCT20190417043303N1

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Introduction

Borderline personality disorder (BPD) was recognized in 1960s.[1] According to diagnostic criteria, BPD is characterized by a pervasive pattern of instability in affect regulation, impulse control, interpersonal relationships, and self-image.[2] Clinical symptoms include emotional dysregulation, impulsive aggression, repeated self-injury, and chronic suicidal tendencies.[1] The DSM-V diagnostic criteria only require individuals to have five out of nine symptoms.[2]

BPD is a common clinical disorder among clinical disorders.[3, 4] The prevalence of this disorder is from 0.5 to 7.2 percent in the general population, 9.3 to

22 percent among psychiatric outpatients, and 28 percent in hospitalized patients.[5] Dialectical Behavior Therapy (DBT) and Mentalization-Based Treatment (MBT) are two approaches to the treatment of BPD. While DBT has the most empirical support, MBT has a small but significant evidence base. DBT combines behaviorism, mindfulness, and dialectics, while MBT synthesizes psychoanalysis, attachment theory, cognitive neuroscience, and developmental psychopathology, coming from different orientations. The central concept of MBT is the capacity to mentalize, which is crucial for the formation of secure attachment, and this ability is weak and unstable in individuals with borderline personality disorder.[6]

Several studies found that MBT significantly reduced the overall psychiatric symptoms with effect sizes (d) ranging from 0.59 to 1.79[7-11] and reducing symptoms both related to self-harming behaviors. Compared to the comparison treatments (supportive group therapy, standard psychiatric care, and traditional psychodynamic approach), MBT achieved better outcomes and larger effect sizes.[12] The cohort studies also reported significant differences with large effect sizes between pre- and post-treatment scores (d=1.23; 1.46).[7, 13] Evidence shows the moderate quality positive effects of MBT on suicidal behavior, self-injury and dysfunctional interpersonal patterns.[14] Day hospital mentalization-based treatment was effective in reducing the severity index of borderline personality disorder.[15]

The patients receiving DBT reported a significantly steeper decline over time in self-harm and emotional dysregulation than those receiving MBT. There were no significant differences in BPD symptoms or interpersonal problems.[16] Other studies revealed that DBT was effective in reducing suicidal behavior, self-injury and dissociation/psychoticism. At post-treatment and follow-up, the effect estimates were of low quality in all comparisons, except for the outcome of suicidal behavior that was found to have medium effect.[14, 17] Providing BPD patients with DBT treatment has shown to have a positive effect on reducing health care utilization and related health care costs.[18]

DBT and MBT are both widely used evidence-based treatments for BPD.[16] So far, the effectiveness of both have not been studied together in Iran. Therefore, the present study aimed to investigate the clinical outcomes of dialectical behavior group therapy and metallization-based group therapy on reduction of the severity of symptoms in patients with BPD.

Methods

Research design was single-blind randomized controlled clinical trial. This study was conducted on 60 patients diagnosed with BPD by a psychiatrist. They were examined by a semi-structured clinical interview. Data were collected from March 2017 to June 2017. Patients who met the inclusion criteria were selected.

They were informed about the objectives of the study and signed a written informed consent. Then, they were divided into three groups of 17. To perform the division (conventionally), the intervention groups and control group were named A, B and C. Then, 51 numbers were selected from the random numbers table by computer.

Inclusion criteria were 1) being in the age range of 18 to 27, 2) having at least primary school education, and 3) having received diagnosis BPD by a psychiatric. The exclusion criteria included 1) not being primarily diagnosed with a disease except for BPD, 2) being dependent on a substance (but not substance abuse), 3) receiving any other psychotherapy treatment, and 4) being admitted in psychiatric wards during treatment. They were informed about the objectives of the study and signed a written informed consent. Then, they were divided into three groups of 17.

The sample size was then raised to 51 individuals (17 per group) in order to compensate for exclusions or any other possible reasons. Overall, 51 patients met the inclusion criteria, but 2 of them were excluded because they did not reside in Shiraz, and 13 were unwilling to participate. Therefore, this study was initially run with 51 participants who met the inclusion criteria. Nevertheless, 15 patients (5 in each group) were later excluded due to various reasons, such as lack of willingness to continue their cooperation, disease recurrence, migration and absence for more than two training sessions. Eventually, a total of 36 individuals (12 per group) participated in our study. Consort diagram shows the study participants (Figure 1).

The intervention group received group therapy based on MBT and DBT, while the control group received no intervention. The sample size was determined as 36 (12 individuals per group). Sample size was determined 6 individuals in each group using NCSS (PASS) software with a type 1 error (α) of 0.05 and a test power of 0.08. To increase the accuracy of the study, we considered the sample size 12, which was calculated based on iteration method.

After obtaining approval from the local ethics committee (IRCT20190417043303N1), the researcher visited the research center of psychiatry and behavioral sciences. After obtaining permission from the authorities, the patients were selected through convenient sampling. They were assured of the confidentiality of their information and were given the right to withdraw from the study at any time during the course of research. Numerical codes and general data were used to maintain anonymity; the data were entered into SPSS version 21 and analyzed

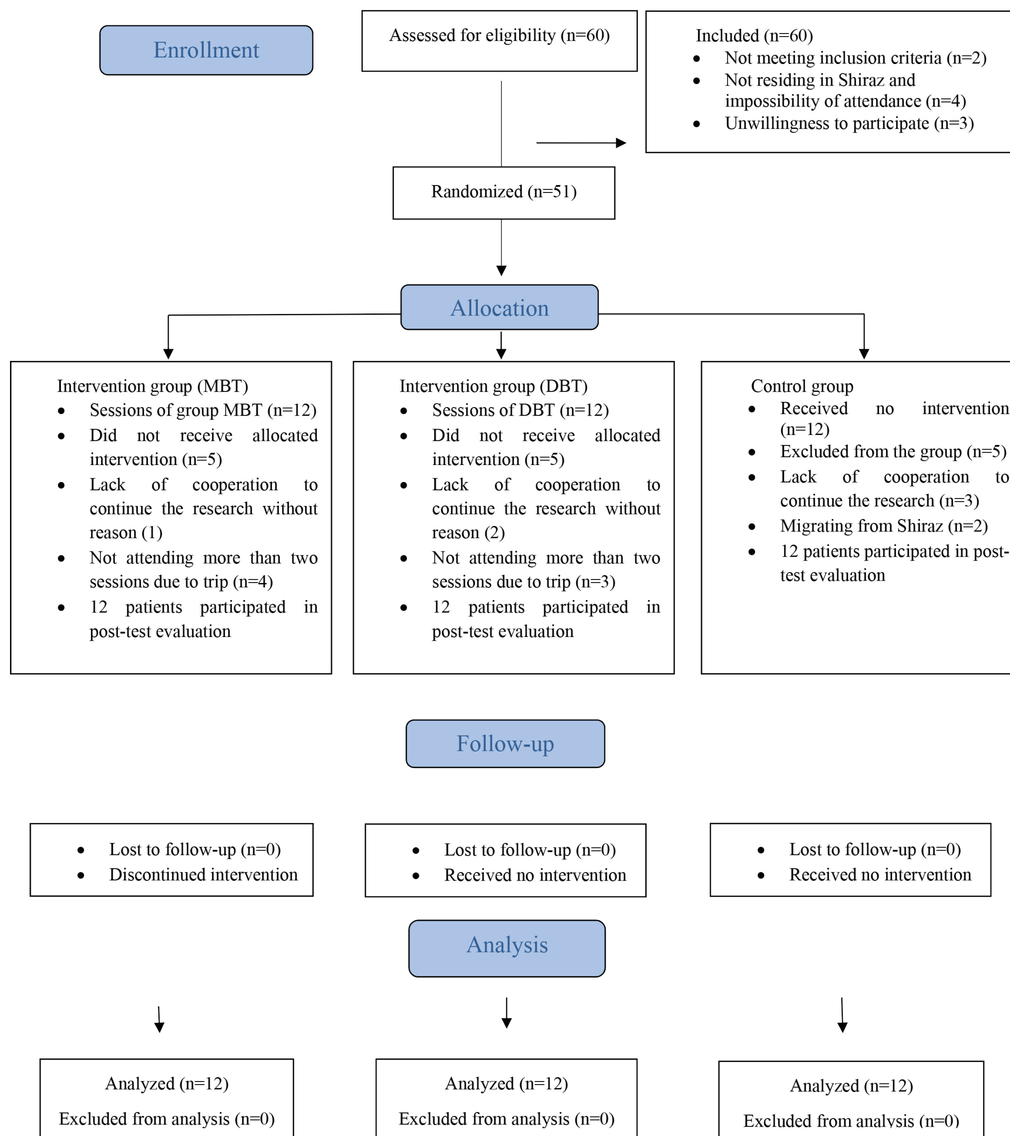

Figure 1: Consort flowchart of the study population

by one who was blind to the groups. The participants filled out a) the demographic checklist, b) Borderline Personality Disorder Severity Index (BPDSI), c) Beck Anxiety Inventory (BAI), and d) Beck Depression Inventory-II (BDI-II).

1-Demographic questionnaire collected the data on age, education level, marital status, and the type and dose of drugs.

2-The BPDSI-IV (Arntz et al. 2003) was developed to assess the frequency and severity of BPD manifestations during the previous three months. It consists of 70 items, divided into nine subscales representing the nine DSM BPD criteria (Abandonment, Interpersonal Relationships, Identity, Impulsivity, Suicidal Behavior, Affective Instability, Emptiness, Outbursts of Anger and Dissociation and Paranoid Ideation). For each item, the frequency is rated on an eleven-point scale, from 0 ("never") to 10 ("daily"). Identity disturbance items form an exception and are rated on a five-point Likert scale, from 0 ("absent") to 4 ("dominant, clear and well-defined not knowing who he/she is"), multiplied by 2.5. The total score is the sum of the nine criteria scores (range 0–90). The BPDSI-IV showed excellent psychometric properties.[19] In this study, the Cronbach alpha coefficient of the BPDSI was 0.90. There was a significant correlation between the BPDSI subscales and BPDSI total score.

3-The BAI is a self-report assessment of anxiety symptoms and consists of 21 items rated on a 4-point Likert scale ranging from 0 (not at all) to 3(severely). The first validation study of BAI reports 0.93 for internal consistency and 0.84 for test-retest reliability.[20] The internal consistency of Cronbach's alpha was 0.92 and the validity was appropriate (r=0.72, r=0.72, P<0.001).[21] The Cronbach alpha coefficient of the BPDSI was 0.87.

4-The BDI is a self-report depression scale developed by Beck et al. to measure affective, cognitive, motivational, and physiological aspects of depression, and is widely used in both research and clinical settings. The BDI-II, published subsequently, introduced changes in domain and duration cues for measurement. The BDI-II consists of 21 items rated

on a 4-point Likert scale from 0 to 3. In Korea, several independent groups undertook validation of the BDI-II. The BDI showed excellent psychometric properties.[20] The internal consistency of Cronbach's alpha was 0.92 in outpatients. Also, there was a significant correlation between the BDI score and BAI (r=-0.60, P<0.01).[22] The Cronbach alpha coefficient of the BPDSI was 0.89.

After selecting the cases in three groups, the patients in the experimental groups participated in group therapy sessions. Meetings were held twice a week for 120 minutes. Pretest and posttests were done for the experimental and control groups. The follow up was also carried out 2 months later.

All patients filled out the questionnaires before and immediately after the intervention under the researcher's supervision in the hall of Day Center of Hafez Hospital. To compare the effectiveness of the intervention, we used Analysis of Covariance (ANCOVA) and Multivariate Analysis of Covariance (MANCOVA). All statistical analyses were performed using SPSS version 16 software. In addition, the significance level was supposed to be less than 0.05 in the present study. It should be noted that data analysis was performed by one individual with no prior knowledge of the two groups' backgrounds.

Results

All the participants were diagnosed with BPD and were living in Shiraz. The age range of the subjects was between 18 and 27 years old with a mean of 22.61 and standard deviation of 2.38. The mean score of age was 23.75±2.22 in the MBT group, 22.08±2.15 in the DBT group, and 22.00±2.52 in control group, with no statistically significant difference using ANOVA (F=2.20, P=0.12). Also, the groups had no significant difference in terms of other demographic information including education level (x^2=4.93, P=0.08), marital status (x^2=2.56, P=0.61) by Kruskal–Wallis test, and dose of the drug (topiramate: F=0.60, P=0.55; lithium: F=0.56, P=0.57; gabapentin: F=0.11, P=0.89; lamotrigine: F=0.05, P=0.94; welbutrin: F=0.07, P=0.92; alprazolam: F=0.02, P=0.97; propranol: F=0.63, P=0.53) using ANOVA. Data analysis revealed that the groups had no significant difference in variables before the intervention in the pretest stage (Table 1).

The mean and standard deviations of the severity of BPD and its subscales were? changed at the baseline, after the intervention and follow-up. It seems that the severity of BPD decreased in all three groups immediately and two months after the intervention. Data analysis revealed that the groups had no significant difference in variables BAI (F=0.003, P=0.99) and BDI-II (F=0.43, P=0.65) before the intervention in the pretest stage using ANOVA. Before the study, the difference between the mean scores of BPDS among the intervention (group therapy based on mentalization and dialectical behavior) and control groups was not statistically significant (F=1.04, P=0.36 in BPD severity).

Results of the ANCOVA and MANCOVA related to the BPD severity total score and all dimensions except for identity revealed a statistically significant difference between the three groups both immediately and after the intervention. Two months after the intervention, reduction in total score of the severity of BPD, interpersonal relationships, impulsivity, affective instability, and outbursts of anger dimensions of BPDSI was statistically persistent (Table 2).

The two groups' therapy based on MBT and DBT was effective in reducing in the symptoms of borderline personality disorder equally. Both treatments were more effective than the control group receiving only medication. This improvement was persistent two months after the intervention.

After the intervention, reduction in all dimensions except for identity between the experimental groups was significant. That means both group's psychotherapy was effective equally in improvement of patients in all

Table 1: Demographic characteristics of the participants

Variable		MBT		DBT		Control		Total	
		Mean	**SD**	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**
Age		23.75	2.22	22.08	2.15	22.00	2.52	22.61	2.38
		N	F (%)	N	F (%)	N	F (%)	N	F (%)
Sex	Male	5	41.66	3	25	3	25	11	30.55
	Female	7	33.58	9	75	9	75	25	69.44
Marriage	Single	9	75	10	83.33	10	83.33	29	80.55
	Married	2	16.66	0	0	1	8.33	3	8.33
	Divorced	1	8.33	2	16.66	1	8.33	4	11.11
Education	Diploma	0	0	1	8.33	4	33.33	5	13.88
	BM	9	75	8	66.66	7	58.33	24	66.66
	MA	3	25	3	25	1	8.33	7	19.44

Table 2: Comparison of BPD severity among the groups

Variable	Group	Pre-test	Post-test	Follow-up	P (Post-test)			P (Follow-up)		
		Mean±SD	Mean±SD	Mean±SD	F	P	eta	F	P	eta
BPD severity	MBT	190.50±47.63	69.00±24.23	75.41±21.02	21.14	0.0001	0.56	31.03	0.0001	0.66
	DBT	175.08±54.76	57.75±23.93	65.33±24.88						
	Control	213.41±86.90	111.83±41.27	150.41±53.89						
Abandonment	MBT	18.41±9.56	9.58±7.11	9.16±4.38	4.59	0.02	0.27	1.32	0.28	0.10
	DBT	17.58±7.52	7.58±7.10	9.83±5.30						
	Control	23.00±1.15	17.08±8.68	14.83±6.68						
Interpersonal relationships	MBT	24.66±1.14	9.33±5.58	9.66±4.63	4.39	0.02	0.26	3.45	0.04	0.22
	DBT	28.00±1.57	9.58±7.10	9.25±5.57						
	Control	27.33±1.34	12.58±7.54	21.00±9.47						
Identity	MBT	21.25±1.38	7.50±5.58	8.25±6.98	1.21	0.31	0.09	0.14	0.86	0.01
	DBT	22.33±1.63	8.41±7.03	9.41±7.83						
	Control	18.33±1.31	10.58±7.62	10.91±7.84						
Impulsivity	MBT	17.41±1.30	5.66±4.69	5.83±3.61	8.36	0.002	0.41	4.73	0.01	0.28
	DBT	20.41±1.13	5.75±3.98	5.50±3.39						
	Control	18.58±1.22	9.25±6.28	15.91±8.07						
Par suicidal behavior	MBT	15.50±1.38	3.41±3.96	5.00±4.53	36.37	0.0001	0.75	1.17	0.32	0.08
	DBT	16.41±9.90	3.83±3.35	4.41±3.39						
	Control	34.91±1.86	15.66±5.56	27.25±12.73						
Affective instability	MBT	35.75±5.13	14.41±3.94	16.00±5.08	8.56	0.002	0.41	3.58	0.04	0.23
	DBT	23.91±1.00	9.25±5.42	10.91±6.27						
	Control	29.41±1.37	17.08±8.98	24.08±8.41						
Emptiness	MBT	22.25±7.28	7.00±3.83	6.91±3.31	5.39	0.01	0.31	0.75	0.48	0.05
	DBT	14.50±1.02	4.25±3.07	5.25±3.93						
	Control	17.25±9.41	9.08±5.56	8.91±6.34						
Outbursts of anger	MBT	19.91±1.07	6.16±3.40	8.08±1.88	12.81	0.0001	0.51	7.21	0.004	0.37
	DBT	15.25±8.75	3.58±2.53	4.66±2.67						
	Control	20.91±1.23	9.66±4.97	19.66±6.91						
Dissociation and paranoid ideation	MBT	15.33±7.58	5.91±4.62	6.50±5.23	4.32	0.02	0.26	1.37	0.27	0.10
	DBT	16.66±1.62	5.50±4.70	6.08±6.76						
	Control	23.66±1.54	10.83±6.72	10.58±7.10						

subscales except for identity. This improvement was persistent in interpersonal relationships, impulsivity, affective instability, and outbursts of anger dimensions two months after the intervention (Table 3).

Discussion

The results of the present study revealed that group therapy based on mentalization and dialectical behavior could equally have positive effects on the scores for BPDS and most of its dimensions in patients with BPD and these improvements were persistent immediately and two months after the intervention. The effectiveness of treatment with MBT[7-15, 23, 24] and DBT[14, 16-18] has been confirmed in many studies.

MBT focuses on the instability of mentalizing as the underlying problem in BPD, but DBT does not posit an "underlying problem," but focuses on changing targeted behaviors with a range of strategies.[6]

Despite the fact that MBT and DBT are derived from such different foundations, both of them pursue common aims, such as establishing a secure attachment relationship in therapy, using empathy and validation in a reciprocal relationship, strengthening the patient's capacities to reduce emotional dysregulation and impulsive behaviors, and enhancing self-awareness, attentional control, and flexible thinking in the contexts of emotions and relationships.[6]

DBT skills play a role in improving the clinical treatment outcomes in BPD. Patients treated with DBT used more behavioral skills by the end of treatment than participants assigned to a control treatment. The use of DBT skills was shown to mediate the decrease in suicidal attempts and depression and the increase in the control of anger. It seems that skills acquisition and practice may be important mechanisms of change in DBT.[25]

Mentalizing is found in many locations in DBT: in the process of assessment, problem solving and dialectics. There are prominent overlaps with mentalizing in the practice of mindfulness, validation, and reciprocal communication, and proximity between mentalizing and important aspects of behavioral-chain analysis.[6]

In DBT, the therapist establishes a secure attachment relationship, focuses on behavioral targets,

Table 3: Post-hoc analysis for mean changes in the BPD severity and its subscales between the groups

Variable	Group		Post-test			Follow-up		
			Mean difference	SE	P value	Mean difference	SE	P value
BPD severity	MBT	DBT	4.88	6.25	0.4	-6.30	3.54	0.08
		Control	-33.36	6.29	0.0001*	-25.73	4.06	0.0001*
	DBT	MBT	-4.88	6.25	0.4	6.30	3.54	0.08
		Control	-38.24	6.41	0.0001*	-19.43	4.37	0.0001*
	Control	MBT	33.36	6.29	0.0001*	25.73	4.06	0.0001*
		DBT	38.24	6.41	0.0001*	19.43	4.37	0.0001*
Abandonment	MBT	DBT	1.49	2.50	0.55	-1.67	1.07	0.13
		Control	-5.91	2.68	0.03*	-1.53	1.69	0.37
	DBT	MBT	-1.49	2.50	0.55	1.67	1.07	0.13
		Control	-7.40	2.51	0.007*	0.14	1.72	0.93
	Control	MBT	5.91	2.68	0.03*	1.53	1.69	0.37
		DBT	7.40	2.51	0.007*	-0.14	1.72	0.93
Interpersonal relationships	MBT	DBT	1.67	2.14	0.44	-1.10	1.42	0.44
		Control	-4.62	2.30	0.05*	-5.89	2.24	0.01*
	DBT	MBT	-1.67	2.14	0.44	1.10	1.42	0.44
		Control	-6.29	2.15	0.007*	-4.78	2.28	0.04*
	Control	MBT	4.62	2.30	0.05*	5.89	2.24	0.01*
		DBT	6.29	2.15	0.007*	4.78	2.28	0.04*
Identity	MBT	DBT	-0.01	2.13	0.99	0.40	1.15	0.72
		Control	-3.03	2.29	0.19	-0.53	1.81	0.76
	DBT	MBT	0.01	2.13	0.99	-0.40	1.15	0.72
		Control	-3.01	2.14	0.17	-0.94	1.84	0.61
	Control	MBT	3.03	2.29	0.19	0.53	1.81	0.76
		DBT	3.01	2.14	0.17	0.94	1.84	0.61
Impulsivity	MBT	DBT	0.65	0.96	0.50	-0.09	0.79	0.90
		Control	-3.15	1.03	0.005*	-3.71	1.24	0.007*
	DBT	MBT	-0.65	0.96	0.50	0.09	0.79	0.90
		Control	-3.80	0.96	0.001*	-3.62	1.27	0.009*
	Control	MBT	3.15	1.03	0.005*	3.71	1.24	0.007*
		DBT	3.80	0.96	0.001*	3.62	1.27	0.009*
Par suicidal behavior	MBT	DBT	-0.05	0.96	0.95	-0.65	1.73	0.70
		Control	-7.48	1.03	0.0001*	-4.17	2.72	0.13
	DBT	MBT	0.05	0.96	0.95	0.65	1.73	0.70
		Control	-7.43	0.96	0.0001*	-3.52	2.77	0.21
	Control	MBT	7.48	1.03	0.0001*	4.17	2.72	0.13
		DBT	7.43	0.96	0.0001*	3.52	2.77	0.21
Affective instability	MBT	DBT	0.14	1.92	0.93	0.63	1.11	0.57
		Control	-7.15	2.06	0.002*	-4.11	1.75	0.02*
	DBT	MBT	-0.14	1.92	0.93	-0.63	1.11	0.57
		Control	-7.30	1.93	0.001*	-4.74	1.78	0.01*
	Control	MBT	7.15	2.06	0.002*	4.11	1.75	0.02*
		DBT	7.30	1.93	0.001*	4.74	1.78	0.01*
Emptiness	MBT	DBT	-0.64	1.93	0.58	-0.82	0.78	0.30
		Control	-3.87	1.28	0.006*	0.37	1.24	0.76
	DBT	MBT	0.64	1.19	0.58	0.82	0.78	0.30
		Control	-3.23	1.19	0.01*	1.20	1.26	0.35
	Control	MBT	3.87	1.28	0.006*	-0.37	1.24	0.76
		DBT	3.23	1.19	0.01*	-1.20	1.26	0.35
Outbursts of anger	MBT	DBT	1.08	0.77	0.22	0.05	0.85	0.94
		Control	-2.79	0.82	0.0001*	-4.85	1.34	0.001*
	DBT	MBT	-1.08	0.77	0.22	-0.05	0.85	0.94
		Control	-3.88	0.77	0.0001*	-4.90	1.36	0.001*
	Control	MBT	2.79	0.82	0.0001*	4.85	1.34	0.001*
		DBT	3.88	0.77	0.0001*	4.90	1.36	0.001*
Dissociation and paranoid ideation	MBT	DBT	0.69	1.42	0.62	0.83	0.82	0.32
		Control	-3.36	1.53	0.03*	2.01	1.29	0.13
	DBT	MBT	-0.69	1.42	0.62	-0.83	0.82	0.32
		Control	-4.06	1.43	0.009*	1.17	1.32	0.38
	Control	MBT	3.36	1.53	0.03*	-2.01	1.29	0.13
		DBT	4.06	1.43	0.009*	-1.17	1.32	0.38

and uses problem-solving skills, to help the patients be able to change. DBT provides a guide to enhancing a relationship through interpersonal effectiveness skills, while in t MBT the therapist uses empathy and validates the mental status to increase the patient's self-awareness and attachment security. The therapist provides the foundation for increasing attentional, emotional, and behavioral self-regulation abilities by various dynamics in relationships and uses a wide variety of techniques to engage and stabilize the patient's ability to understand how he reacts to others and how others experience him in the relationship.[6] Also, some researchers contend that increasing mentalization skills may be a common underlying factor in all treatments for individuals with BPD.[26]

Effective treatments shared the characteristics of consistency, coherence and continuity, the qualities particularly relevant to borderline personality disorder. They create an essential component in the therapeutic change, as it enables the individual to use the experience of being mentalized, learn mentalizing of others, and then applying and developing these experiences in routine life, which is the basis for meaningful therapeutic change.[27]

All effective interventions stimulated the mentalizing processes, which enabled the patients to make use of the techniques of the therapy to benefit from experiences in their routine life. From this perspective, change is thought to be brought about by what happens beyond therapy in the patient's social environment. Studies in which change was monitored session by session have suggested that the patient–clinician alliance in a given session predicts changes in the next. This indicates that the change that occurs between the sessions is a consequence of changed attitudes to learning from social experience engendered by therapy, which influences the patient's behavior in the process of therapy.[27]

The results of some studies showed that psychotherapy was considerably more effective than no treatment or placebo treatment, but the results of the research are controversial about the effectiveness of a treatment compared to other therapies. The current discussion in psychotherapy research strongly emphasizes these common factors. These refer to factors present in quite different and even opposing therapy modalities and effective in the treatment of quite different disorders and problems. Examples of common factors that are shared by all psychotherapies are "hope instilled in the patient," the "cognitive restructuring" of the patient's belief system, the patient's "corrective emotional experience," and patient and therapist establishing a trusting, cooperative relationship, namely a "therapeutic alliance".[28] Although some believe that the common factors are thought of as perhaps necessary and are important for producing the benefits of psychotherapy, clearly they are not sufficient.[29] The variety of common factors can be described by a four-dimensional structure: common factors related to 1) cognitive processing, 2) emotional processing, 3) coping, and 4) common factors fostering therapeutic alliance or therapy motivation. These dimensions are characterized by specific patterns of associated techniques. Therapeutic alliance can be a common factor in any successful treatment of BPD.[30]

The present study had some limitations as well. Firstly, the demographic characteristics except for age were disregarded in selecting the cases. Secondly, the gender of subjects was not considered in the analysis. Thirdly, the number of cases was small, so caution should be taken when generalizing the results.

Given the degree of natural overlap between DBT and MBT, it is suggested that the DBT therapist can incorporate mentalizing in working with patients. Future studies could assess the contributions of potential variables of the effectiveness of MBT and DBT, such as comorbid Axis-I disorders, BPD severity, gender, and treatment adherence. Identification of the underlying mechanisms of the therapy and whether it works as a result of its rationale are suggested to be considered in future researches to improve the functioning. MBT can be used in adolescent groups exposed to the risk of BPD. It is suggested to be used for treat other personality disorders.

Conclusion

This study indicates that MBT and DBT are an effective treatment for reducing borderline personality disorder symptom severity in patients. Evidence showed that MBT led to reductions in borderline personality disorder-specific symptoms and this improvement was persistent. These findings about the effectiveness of various treatment approaches to BPD emerging from a systematic review of the literature on the effectiveness of psychotherapy indicate that no one treatment modality is able to claim supremacy. In this study, we have presented a new dimensional model of personality pathology and showed the role of mentalization in the therapeutic change across both t effective treatments for BPD.

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