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Original Article

Investigating the effectiveness of dialectical therapy on the public health of individuals having personality disorder

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ABSTRACT

Introduction: Borderline personality disorder (BPD) is one of the complex problems related to the mental health field, which is recognized having features such as extreme negative emotions, identity disorders, and impulsive and unstable behaviors in interpersonal relationships. Various therapeutic actions have been used considering the etiology of this disorder and among these therapies, dialectical behavior therapy (DBT) proposed by Marsha Linehan (1993) have led to frequent improvements. This therapy is among cognitive-behavioral therapies aiming at emotional and impulsive instabilities. This study was conducted to investigate the dialectical behavior therapy on the public health of individuals having personality disorders. **Methodology:** This quasi-experimental study had a pre-test, post-test, and control group design. Statistical population of the study included patients having personality disorder in Andimeshk city of Khuzestan province during 2019; among which, 38 patients were selected using convenient sampling method who were randomly replaced in two equal groups. Experimental groups were trained through DBT separately for 8 sessions, each lasting for 90 minutes and the control group was on the waiting list. Research instruments included public health questionnaire as well as Millon`s personality disorder questionnaire. Data were analyzed using SPSS, version 21, software, and multivariate covariance analysis method. **Findings:** The findings of the study indicated that DBT significantly improved the public health of individuals having personality disorders. **Conclusion:** The results indicated the importance of DBT in improving the public health of individuals having personality disorders.

Keywords: Dialectical therapy, Public health, Personality disorder.

Introduction

Nowadays, searching for the improvement of the mental health level and its efficacy has been an essential and inseparable part of modern society. Due to the unpleasant events that have occurred in recent decades and actually in the recent century, as well as its irreparable effects on mental health and mindfulness, psychotherapy has had an especial place in the life of human beings and government policymaking. Since the human mind investigates previous events habitually and seeks to predict the future, it easily gets disturbed.

Access this article online	
Website: www.japer.in	**E-ISSN:** 2249-3379

How to cite this article: Nasim Baharan, Navid Shirmardi, Fazileh Alboshokeh, Fateme Masoudizade. Investigating the effectiveness of dialectical therapy on the public health of individuals having personality disorder. J Adv Pharm Edu Res 2020;10(S4):100-105. Source of Support: Nil, Conflict of Interest: None declared.

Professor Marsha Linehan, in the United States, has introduced dialectical therapy. He spent more than 1 years to change the behavior and manage emotions and behaviors through making balance, accepting, and changing them [1]. He used cognitive behavior principles in this method. Changing ones` mentality and acceptance occurs in cognitive behavioral therapy (CBT). Dialectical therapy is different from CBT; since using cognitive methods is less emphasized and learning and practicing new skills is mostly focused on this method. The main cores of dialectical therapy include "thesis", the current status; "antithesis", the opposite status; "synthesis", assembly status. The three principles of this therapeutic method include 1. Integrity of the reality and having relations with internal common policy ties, 2. The opposition or polarity principle, 3. Constant and eternal change principle. In such a circumstance, the individual asks for finding a solution for his extreme emotions. Through solving problems by extreme emotions, the individual would have "wise mind thinking" [2].

Dialectical therapy is a method between the therapist and patient that creates acceptance and change through preserved balance [2].

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The concept of "dialectical" means accepting and changing the synergism of two opposite variables in the treatment, which gives a conclusion of the combination of acceptance and changing better than the results of each of these factors. The investigation of dialectical behavior therapy (DBT) of the recent ten years by Chugani (2017) showed that dialectical behavior affected six factors including 1. Belief in the improvement, 2. Your current experience, 3. Improvement aspects, 4. Motivational factors, 5. Mental support, 6. Individual conflicts [3].

Dialectical behavior therapy, as a new therapeutic approach, is composed of the behavioral cognitive therapies` principles as well as eastern philosophies that are based on acceptance principle; accordingly, it represents four interventional criteria in its group therapy method including core mindfulness and distress tolerance as the acceptance criteria, and emotion regulation and interpersonal efficacy as the change criteria. Distress tolerance behaviors aimed at training dialectical skills, explore the tolerance and survival in crises and helps individuals accept life as it is in the current moment.

Dialectical behavior therapy is a comprehensive behavioral cognitive therapy, which is principally used for elderlies especially for those self-harm habits that have the criteria related to borderline personality disorder. Traditionally, such a group of people is considered as "resistant against therapy" so psychotherapy interventions are hardly done for them. Dialectical therapy was the first psychological treatment that was effective for individuals having personality disorders [4].

Various investigations indicated that dialectical therapy [5-9] was effective in reducing suicide intentions, intentional self-harm, anger, depression, public health, hopelessness, and improvement of the performance. Recent meta-analyses have shown the moderate to high influence on the effectiveness of dialectical therapy on these individuals. Moreover, comprehensive explorations showed that this kind of therapy affected anger, paranoid symptoms, and mental health [10, 11].

Katie et al. (2020) found that depression, anxiety, interpersonal problems, life quality, mindfulness skills, as well as life expectancy improved significantly while applying dialectical therapy on borderline personality symptoms. Fruzzetti and Luciana (2020) stated that this therapeutic method had a significant effect on social and ethical relations as well as individual conflicts. Quetsch et al. (2020) investigated 13 health agency leaders who were under DBT. The results showed that these individuals` anxiety and depression levels as well as conflicts and anger reduced. Cavicchioli, Ramella, and Vassena (2020) investigated DBT skills on 186 individuals (110 men and 76 women). The results showed that this kind of therapy had a significant effect on emotion regulation, depression, and conflicts. Changes in emotion regulation had a significant effect on the improvement of addictive behaviors. Moreover, Zeifman, et al. (2020) indicated that such a kind of therapy affected emotion regulation such as skill improvement (for example mindfulness and distress tolerance) regarding the management of emotional distress and provocative behaviors as well as marital conflicts.

Flynn (2017) observed a significant reduction in the borderline symptoms, anxiety, hopelessness, suicide intentions, and depression of patients at the end of 12 months dialectical therapy program, which increased total life quality and life expectancy of patients. Perepletchikova (2017) evaluated 16 criteria for 43 children under dialectical therapy for 3 months. The results showed that such a kind of therapy significantly affected anxiety, conflicts, depression, suicide intentions, and mood disorders. Besides, Oconnell (2014) put patients under dialectical therapy for 12 months; the results indicated that the level of individual conflicts, suicide intentions, and anger reduced significantly [12].

Methodology

This quasi-experimental study aimed at investigating the effect of dialectical behavior therapy (DBT) on the public health of patients referring to the therapeutic centers of Andimeshk in 2019. A sampling of this study was done using a systematic random method so that firstly, the required sample volume for determining the factors related to personality disorder and mental health was determined to be 48 individuals using Morgan sampling formula; among which, 19 individuals were placed in the experimental group and 19 individuals were placed in the control group. Each time that the researcher referred to the centers randomly, he collected a sample volume of more than 10 percent of the determined share to prevent the attrition. Finally, 53 individuals completed the questionnaire among which, 5 individuals were excluded from the study due to not completing all research questions.

Data Collection Tools

General Health Questionnaire (GHQ): This questionnaire had been proposed by Goldberg and Hiller in 1979. GHQ could be considered as a set of questions composed of the lowest levels of common disease symptoms existing in various mental disorders so that it can differentiate mental patients as a total category of those who consider themselves as healthy individuals. Therefore, the aim of this questionnaire was not obtaining a certain diagnosis of the hierarchy of mental diseases, rather it seeks to create a distinction between mental disease and mental health. Regarding the GHQ score, individuals respond to 28 questions of GHO having 4 sub-scales of physical symptoms, anxiety symptoms, social function disorder, and depression symptoms. The sub-scale of physical symptoms is obtained through the administration score of public health (Questions 1-7).

Millon Clinical Multiaxial Inventory (MCMI) Questionnaire: This is a standardized self-assessment questionnaire measuring a wide scope of data related to the personality, emotional adjustment, and referees` attitude toward the test. This questionnaire has been designed for elderlies of 18 years old and more whose reading ability is in the 8th class level.

The original version of this test was presented in 1977 by Theodore Millon and has been revised 2 times since then.

The Structure of Dialectical Therapy Sessions

First session: Introducing group purposes and rules, introducing learners` awareness skills through three mental logical, emotional, and rationalist forms.

Second session: Introducing "what" and "how" skills of the learner awareness including observation, description, and participation as well as "how" skills including having nonjudgmental status, self-mindfulness, and efficient performance.

Third session: Practically exercising "what" and "how" skills as the central core of DBT.

Fourth session: Partly educating emotion regulation skills including the definition of emotion and its components.

Fifth session: Educating another part of emotion regulation skills including emotion identification patterns and labeling them, which leads to the increase of emotion control ability.

Sixth session: Educating emotion acceptance skills even if they are negative and educating skills for reducing susceptibility over negative emotions.

Seventh session: Partly educating distress tolerance criteria that are survival strategies in crisis including attention distracting skills and self-relaxation with the five senses.

Eighth session: Educating moment amendment skills and profit and loss technique while facing failure or feeling anger.

To categorize and summarize the data, descriptive statistics such as mean, standard deviation, and frequency distribution tables were utilized. Descriptive (calculating mean and standard deviation) and inferential (covariance analysis test, variance analysis, multiple linear regression) statistical methods were used.

Table 1-The mean and standard deviation of pre-test and post-test scores

		Number	Mean	Median	Mode	Standard deviation	Lowest	Highest
Control group	Physical, Pre-test	19	14.17	14.00	11.00	3.75	9.00	22.00
	Anxiety, sleep, Pre-test	19	14.11	13.00	11.00	3.27	10.00	22.00
	Social, Pre-test	19	15.67	15.50	15.00	2.54	12.00	21.00
	Depression, Pre-test	19	12.33	11.50	9.00	4.28	7.00	20.00
Experimental group	Physical, Pre-test	19	12.95	11.00	11.00	4.14	8.00	21.00
	Anxiety, sleep, Pre-test	19	13.10	13.00	11.00	3.06	9.00	21.00
	Social, Pre-test	19	16.52	16.00	15.00	3.17	12.00	24.00
	Depression, Pre-test	19	10.81	9.00	9.00	4.11	7.00	24.00

Table 2- Descriptive indexes of research variables before the intervention

		Number	Mean	Median	Mode	Standard deviation	Lowest	Highest
Control group	Physical, Post-test	19	13.78	13.00	10.00	3.21	10.00	20.00
	Anxiety, sleep, Post-test	19	14.00	13.50	12.00	3.16	10.00	21.00
	Social, Post-test	19	15.44	15.00	13.00	2.73	11.00	22.00
	Depression, Post-test	19	12.33	11.00	8.00	4.59	7.00	21.00
	Mental health, Post-test	19	55.56	54.50	43.00	11.08	43.00	77.00
Experimental group	Physical, Post-test	19	9.48	8.00	6.00	3.80	5.00	17.00
	Anxiety, sleep, Post-test	19	8.57	7.00	6.00	2.89	5.00	16.00
	Social, Post-test	19	11.48	11.00	151.00	2.77	8.00	20.00
	Depression, Post-test	19	6.71	5.00	5.00	3.76	3.00	20.00
	Mental health, Post-test	19	36.24	33.00	30.00	11.06	24.00	65.00

Table 3- Box test results for investigating the homogeneity presumption of the variance-covariance matrix

BOX`s M	F	Significance
39.859	0.845	0.731

The above table indicates that the significance level was (sig.>0.05) showing that the homogeneity condition of the variance-covariance matrix was well observed (F=0.845 and sig.>0.05).

Table 4- Wilks` Lambda test in multivariate covariance analysis

Test	Value	F	Degree of freedom for error	Degree of freedom for effect	Significance level	Eta square
Wilks` Lambda	0.03	82.675	5	24	0.00009	0.97

The results of the Wilks` Lambda test indicated that there was a significant difference between the control and experimental group at least in one of the variables related to the mental health (F=82.675, sig.<0.05).

Table 5- The results of the Levene test for investigating variance equality presumption of research variables in both groups

Variable	F	Df1	Df2	Sig.
Physical, Post-test	3.26	1	39	0.0560
Anxiety, sleep, Post-test	0.90	1	39	0.3486
Social, Post-test	3.00	1	39	0.0918
Depression, Post-test	0.01	1	39	0.9272

The above table showed that the variance of study variables was equal in both groups and had no significant differences; these findings indicated the reliability of the following results.

To investigate the homogeneity of the regression line slope, the relationship between the reciprocal effect among the group and variable is explored. The following table shows the results of this test.

Table 6-Investigating the homogeneity of regression line slope

Resources	Variables	The sum of the square root	Degree of freedom	The mean of the square root	F	Sig.
The reciprocal effect between independent variables (before the intervention) and group	Physical, Post-test	6.16	2	3.08	1.69	0.2118
	Anxiety, sleep, Post-test	1.74	2	0.87	0.76	0.4803
	Social, Post-test	7.64	2	3.82	2.11	0.1493
	Depression, Post-test	9.03	2	4.52	3.79	0.0511

Considering the table, the significance value for the reciprocal effect between group variables and the independent variables before the intervention, was 0.05; therefore, the homogeneity presumption of regression line slope was observed.

According to the results of the Box test, Wilks` Lambda test, and Levene test, the analyses related to the effects between subjects were investigated whose results have been presented in the following table.

Table 7. Multivariate covariance analysis (MANCOVA) related to the criteria of mental health and mindfulness in both control and experimental groups

Resources	Dependent variable	SS	df	MS	F	Significance	Eta square
Group	Physical, Post-test	43.72	1	43.72	28.37	0.0000	0.49
	Anxiety, sleep, Post-test	90.83	1	90.83	78.47	0.0000	0.73
	Social, Post-test	110.01	1	110.01	62.26	0.0000	0.68
	Depression, Post-test	62.54	1	62.54	44.84	0.0000	0.61

According to the above table, there was a significant difference between control and experimental groups in terms of the mean of physical symptoms after the intervention (F=28.37, sig.<0.01). The mean of physical symptoms after the intervention was less in the experimental group compared to the control group and the group variable (control and experimental) could explain 49% of changes related to physical symptoms.

Also, according to the above table, there was a significant difference between control and experimental groups in terms of the mean of anxiety symptoms after the intervention (F=78.47, sig.<0.01). The mean of anxiety symptoms after the intervention was less in the experimental group compared to the control group and the group variable (control and experimental) could explain 73% of changes related to anxiety symptoms.

Moreover, considering the above table, there was a significant difference between control and experimental groups in terms of the mean of social function after the intervention (F=62.26, sig.<0.01). The mean of social function after the intervention was less in the experimental group compared to the control group and the group variable (control and experimental) could explain 68% of changes related to the social function.

Besides, according to the above table, there was a significant difference between control and experimental groups in terms of the mean of depression after the intervention (F=44.84, sig.<0.01). The mean of depression after the intervention was less in the experimental group compared to the control group and the group variable (control and experimental) could explain 61% of changes related to depression.

Discussion and Conclusion

This study showed that dialectical therapy exists and is effective. Since individuals having personality disorders are complex patients in terms of diagnosis, this study showed that the DBT program was effective than any other therapies.

Successful administration and the sustainability of health care innovations in the common regulations are accompanied by a challenge. DBT is not an exception to this rule. However, since the beginning of this therapeutic method`s training in 1995, the

sustainability of DBT programs have remained constant and similar to other innovations but in a higher rank compared to others. Considering the limited resources of health care systems, this achievement is charming. Improving the training in the location with additional interventions can potentially improve the result of such training for the therapist.

The main feature of those having BPT is emotional liability including severe mood swings, which points out to a certain behavioral pattern. Having disorders in emotion regulation is a criterion that can have destructive effects on the public health of individuals having BPD. Therefore, the application of an efficient therapeutic approach focusing on emotion regulation seems to be essential. DBT uses the principles of behavioral cognitive approach to emphasize the emotional liability and impulsive behaviors of those having borderline personality disorder resulting in many improvements.

Schnell and Harpertz in their study investigated women having borderline personality disorder under DBT and explored the results before and after treatment using FMRI. These measurements showed that such a therapeutic approach caused neurocognitive changes in the hippocampus and prefrontal cortex areas. These structures played a significant role in highlighting emotional stimulus and the use of cognitive strategies in reducing negative emotions. Moreover, to explain this finding, the role of the amygdala in emotion regulation could be pointed out. Conducted studies have compared the results of DBT before and after the treatment showing that DBT causes neurocognitive changes in the amygdala region while interacting with the frontal lobe and is effective in reducing emotional disorders of BPD such as anxiety, depression, and emotional liability. DBT includes principles and techniques that facilitate the management and acceptance of emotions. This kind of therapy combines mindfulness practices and behavioral ones so that the patient can observe his behavior and physiologic, mental, behavioral, and emotional consequences without any judgments and not only seeks to accept this status and tolerate it but also learns how to solve the situation. He learns these practices and converts them to his mental automatic style. Doing such practices finally leads to emotion regulation and management.

In DBT, the patient is acknowledged that these behaviors can be harmful; so he gets alert that such behaviors should be stopped. Therefore, the first strategy in DBT while facing such behaviors is the commitment to the change. The patient increases his life quality by identifying these behaviors and changing them. Since acquiring skills and creating behavioral motivations is the basis of change in DBT, using dialectical principles and strategies, validation, problem-solving, cognitive style and patient management are the basics of therapists` works with an emphasis on behavioral skills` training (interpersonal skills, distress tolerance skills, emotion regulation skills, and mindfulness or core mindfulness skills), which improve the life quality level, interpersonal skills and finally mental and psychological well-being. Besides, referring to previous findings regarding the effect of DBT on emotion regulation, it could be concluded that emotion regulation can act as one of the health improvement criteria. Thus, overall, the main emphasis of DBT is on learning, using, and generalizing certain adaptive skills that have been trained in this therapeutic method.

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