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Effectiveness of Cognitive-Behavioral Therapy CBT on Quality of Life and Dysfunctional Attitudes of Bipolar Patients

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Abstract: This study was done to determine the effectiveness of Cognitive-Behavioral Therapy (CBT) on quality of life and were dysfunctional attitudes of bipolar patients. The research method was semi-experimental by design of pre-test and post-test on the control group. The sample size was 20 patients who are non-randomly selected from patients who scored high in bipolar disorder questionnaire. They were divided into two group with 10 members, experimental and control group. The first group (test group) were individually treated with Cognitive-Behavioral Therapy (CBT). The quality of life questionnaire (SF36) Dysfunctional Attitude Scale (DAS 26) was performed on them and after the sessions, they were taken a test and the covariance analysis was used for the post-test of data. The results of this study indicate that bipolar disorder is reduced by cognitive-behavioral therapy CBT as well as cognitive-behavioral therapy CBT raise the quality of life in bipolar disorder patients and dysfunctional attitudes of bipolar patients is reduced. In addition, it has effected on the physical, general health, social functioning and mental health and have created significant changes in bipolar patients. In general it, can be noted that cognitive-behavioral therapy is effective on reduction bipolar disorder as well as quality of life and dysfunctional attitude and it can be used as a clinical intervention by specialists.

Key words: Cognitive-Behavioral Therapy (CBT), quality of life, dysfunctional attitude, bipolar disorder, intervention

INTRODUCTION

Mental health concept emerged in 1905 at first, coincided with the beginning of the movement of the same name. Mental health is not same and pervasive definition like many areas of humanities. It is resulted of that there is not acceptable definition of "normal" concept, yet. So that, physicians are viewed from the view of medical knowledge and they define normal or lack of healthy normal with the absence of symptoms. In other words, it they have taken health and disease in two incompatible poles. Psychiatrists believe a healthy person is one who can balance his behavior in the face of various social problems. Psychologists also believe that there may be no signs of mental illness in person but that does not mean he's perfect mental health. In addition to a healthy body, the mental health requires the environment and different factors of it how that affect the mental structure of the person what manner it can overcome on the conflict and environmental conflict which is subject that knowledge of psychology has been addressed it with any approach.

Bipolar disorder is a complex chronic disease characterized by recurrent episodes of depression, mania and hypomania (Akiskal, 2008). The disorder is prevalent in all communities in the whole world so that the spread of bipolar disorder in the entire life cycle is between 2.8-6.5% (Bauer and Pfennig, 2005). Bipolar disorder is the sixth cause of disability at worldwide in young adult age groups (Lopez and Murray, 1998) and the risk of suicide in patients with this disorder is high, at about 15% (Vieta *et al*., 1997a). Several studies also indicate that high social costs imposed to patients and their caregivers as performance reduction of power and productive due to the disease (Havermans and Nicolson, 2007). Performance degradation resulting from the disease of mania and depression phases has been proven in various studies (Vojta *et al*., 2001). New studies indicate, there are also the possibility of functional changes during the course of the Yu Tomic of disease (Sanchez *et al*., 2009). Previous longitudinal studies show that less than half of the bipolar patients have the favorable response to the long-term treatment even if the treatment is continued, many patients have not achieved a full recovery and however,

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many patients have low acceptance for continuously medical treatment (Akiskal, 2008) and properties of disease such as repeated episodes of depression and mania is impressive on different aspects of living and quality of life that includes social, occupational and performance and know that patients with bipolar disorder to what extent have a good feel and in which aspects such a feeling is not obtained, can be useful to better understand the disease and treatment plan (Zhang *et al*., 2006).

The semantics

Definition of CBT: This definition is created based on the theory that there are a relation between thinking of people, function and mode of them (Bekk *et al*., 1979). Cognitive behavioral therapy CBT is a fairly structured method that the patient is trained to use the cognitive techniques to identify negative abnormal thinking patterns and replace them with healthy thinking. In addition, cognitive-behavioral therapy focused on the behavior and its impact on patient mode and had been improved the patients by increasing pleasant activity (Rossello *et al*., 2008).

Quality of life: The World Health Organization defines quality of life as follows: "people's perception of their position in life and in the culture structure and value system in which they live in it, regarding to the goals, expectations, standards and items which is important for them" (Zhang *et al*., 2006).

Conceptual definition of bipolar disorder: Bipolar disorder is a complex chronic disease characterized by recurrent episodes of depression and mania and hypomania (Akiskal, 2008). The disorder is common in America society in such a way that the prevalence of bipolar disorder is between 2.8-6.5% in the whole of the life cycle (Bauer and Pfennig, 2005). Bipolar disorder is the sixth cause of disability in young adult age groups in the worldwide (Lopez and Murray, 1998). The risk of suicide in patients with this disorder is high at about 15% (Vieta *et al*., 1997b).

MATERIALS AND METHODS

This is a semi-experimental study in which sampling is selected based on availability and non-randomly. Semi-experimental designs do not have accuracy of the full experimental designs but due to the limitations of some studies were selected at random participants, randomly assigning them or using randomly can be controlled internal and external threats factors. The research is semi-experimental design with pre-test and post-test by controlled group. In this method, the impact of the independent variable is measured on one or more the dependent variable. These variables and the tests are defined in Table 1-4.

Table 1: Pre-test and post-test design with controlled group

Independent variables	Pre test	Post test
CBT	O_1-O_2-O_3 (test E)	O_1-O_2-O_3
-	O_1-O_2-O_3 (control C)	O_1-O_2-O_3

Independent variable: CBT; Dependent variable: O_1: bipolar disorder; O_2: quality of life; O_3: dysfunctional attitude

Table 2: Statistical indicators related to the bipolar disorder's questionnaire in the pre-test and post-test level

Variable/Group	Level of test	Average	SD
Bipolar disorder			
Experimental	Pre-test	7.3854	1.1098
	Pre-test	5.8912	0.9574
Control	Post-test	6.7305	1.2450
	Post-test	6.9023	1.3086

Table 3: Statistical indicators related to the dysfunctional attitude's questionnaire in the pre-test and post-test level

Variable/Group	Level of test	Average	SD
Dysfunctional attitude			
Experimental	Pre-test	9.0932	1.0848
	Pre-test	15.1780	1.9054
Control	Post-test	10.7613	1.8961
	Post-test	9.2918	1.9320

Table 4: Statistical indicators related to the physical health's questionnaire in the pre-test and post-test level

Variable/Group	Level of test	Average	SD
Physical health			
Experimental	Pre-test	45.7143	9.5371
	Pre-test	52.3810	8.5487
Control	Post-test	43.4286	11.6908
	Post-test	42.0952	6.4312

Statistical population and sampling: The study population is patients between 20 and 50 years old who have bipolar disorder and go to Atieh Overall Psychiatric Center in Tehran. The number of participants have been divided into two groups with 10 members that total of them are 20 people and patients requesting to participate in the project (having entry criteria and not exit) was selected in a manner accessible. This number have been assessed before and after of running independent variables.

Analysis method: Cognitive-behavioral therapy is a treatment that helps patients recognize patterns of distorted and dysfunctional behavior and was conducted on patients with bipolar disorder for 12 sessions in a month, three time in a week for 4 week and summary of sessions includes the following.

First session: Involves the therapist with the client, create a therapeutic relationship, emotional and explanations on the process of holding therapy sessions,

principles and agreements of treatment, including on time and consistent presence, confidentiality, participation in discussions and doing assignments, teach about anxiety and explanation about disorders.

Second session: Second session will be assigned normalization of experience intrusive thoughts, unwanted, present the rationale treatment by pattern of cognitive-behavioral therapy, emphasizing the role of inflated responsibility as a core belief in providing continuity disorders.

Third session: Five routes inflated responsibility will be taught in childhood.

Fourth session to tenth or twelfth session: Fourth session to tenth or twelfth session is devoted to challenge irrational beliefs, giving too much importance to think, need to control thoughts, fear of anxiety, too much of a threat, intolerance of irrational scenarios, perfectionism, excessive responsibility for cognitive, homework and practice behavior.

Quality of life scale is SF 36 that is general test and includes the areas of physical functioning, bodily pain, general health, social functioning and mental health. Using statistical analysis, test reliability of the questionnaire (internal consistency) showed that exception the vitality scale (a0.65), any other Persian measures SF36 have minimum standard of reliability coefficients ranging from 0.77-0.9. Dysfunctional Attitude Scale (DAS-26) is based on pathological model of Beck focuses on the assessment of cognitive constructs. The scale is used for the assessment and evaluation of the underlying beliefs and assumptions and determine the content of cognitive based on Beck's E theory. The scale has 40 questions that measures the underlying assumptions of the depression. It is used MDQ questionnaire to assess bipolar disorder that is screening tool for the diagnosis of bipolar disorder and designed and built in 2000 by Hirschfield and colleagues and composed of the 13 questions and specified the patient by signs and behaviors manic or hypomania as well as the severity of the complaint and the functional status of patients simultaneously by determination yes/no. This questionnaire has three main questions.

Bipolar patients is selected from Atieh clinic if available and due to the inclusion criteria and that their number is 20. They were divided into two groups, included 10 patients in the first group with CBT and 10 patients in the second group without intervention of CBT. Before the intervention, the patients was performed (MDQ), (SF 36), (DAS-26) tested. The treatment interventions are conducted on groups during the 4 weeks in Atieh Comprehensive Psychiatric Center. Members of both groups were evaluated again at the end of treatment. CBT treatment was performed by a trained psychologist and the control group received no intervention and were done post-test only at the end of 3 weeks.

RESULTS AND DISCUSSION

Statistical indicators: Stronger evidence is needed to the announcement of results and final decisions and applying them to the whole community that is performed through statistical tests in inferential statistics. Also, the confidence level of test 95% and significant level for all statistical methods is considered $p = 0.05$ and interactive. In this study, the results of the data are summarized and analyzed by SPSS Software and data in descriptive level (standard deviation) and inferential statistics were analyzed by covariance analysis. This study describes the social and descriptive features.

Cognitive behavioral therapy and symptoms of bipolar disorder: As seen in table, effect of the pre-test was significant in the estimated results. After removing the pre-test, calculated F (4.78) is meaningful to compare post-test of control and experiment group of the different levels (0.037).

According to Table 5, it can concluded that teaching program of CBT is effective on reduction of bipolar disorder. Finally, it can be concluded that zero assumption is rejected and the hypothesis that cognitive-behavioral therapy CBT reduces symptoms of bipolar disorder can be approved.

Effect of cognitive behavioral therapy on dysfunctional attitude of bipolar patient: The following Table 6 shows the effect of pre-test was not significant on the test result but the observed F in dysfunctional attitude grades in control and experimental groups was significant at the level of $p = 0.022$ and ($F = 5.87$). So, according to following table, we can conclude that zero assumption is rejected and research assumption that suggests CBT reduces dysfunctional attitude patients with bipolar disorder is accepted.

Effect cognitive behavioral therapy on life quality of patient with bipolar disorder: The following Table 7 shows that effect of pretest was not significant on test result but the observed F in the life quality grade in control and experimental is significant at the level of $p = 0.021$ and ($F = 5.971$). So, according to following table,

Table 5: Analysis of variance comparing the experimental group and control group scores on a scale of bipolar disorder

References	Sum of squares	Freedom degree	Average of squares	F-values	Meaningful level	Eta coefficient	Statistical power
Pre-test	1132.75	1	1132.75	4.62	0.041	0.14	0.54
Group	1171.80	1	1171.80	4.78	0.037	0.15	0.56
Error	6607.91	17	244.73				
Total	236545	20					

Table 6: Analysis of variance comparing the experimental group and control group scores on a scale of dysfunctional attitude

References	Sum of squares	Freedom degree	Average of squares	F-values	Meaningful level	Eta coefficient	Statistical power
Pre-test	252.83	1	252.83	2.05	0.163	0.071	0.282
Group	722.23	1	722.23	5.87	0.022	0.17	0.64
Error	3320.50	17	122.98				
Total	462207	20					

Table 7: Analysis of variance comparing the experimental group and control group scores on a scale of life quality

References	Sum of squares	Freedom degree	Average of squares	F-values	Meaningful level	Eta coefficient	Statistical power
Pre-test	72.911	1	72.911	0.955	0.337	0.08	0.290
Group	455.635	1	455.635	5.971	0.021	0.173	0.57
Error	302.50	17	122.98				
Total	348910	20					

Table 8: Analysis of variance comparing the experimental group and control group scores on a scale of body performance

References	Sum of squares	Freedom degree	Average of squares	F-values	Meaningful level	Eta coefficient	Statistical power
Pre-test	638.906	1	638.906	17.908	0.000	0.451	0.398
Group	635.611	1	635.611	17.816	0.000	0.443	0.393
Error	409.450	17	341.675				
Total	567123	20					

we can conclude that zero assumption is rejected and research assumption that suggests CBT increases life quality of patients with bipolar disorder is accepted.

Effect of cognitive behavioral therapy on body performance of bipolar patient: As the following Table 8 shows the effect of pre-test has been significant in the evaluation of results. After removing of pre-test, the calculated F (17.816) to compare post-test of control and experiment group is in the meaningful level statistically p (0.000). According the following Table, 8 it can be concluded that the learning program of cognitive behavioral therapy is effective in the increasing of the body performance of people with bipolar disorder in the group. Finally, it can be concluded that zero assumption is rejected and research assumption that suggests cognitive behavioral therapy has efficient on the body performance of bipolar patient.

CONCLUSION

According to assumption of this study that suggests cognitive behavioral therapy will decrease the symptoms of bipolar disorders and according to results of this study, it can be concluded that CBT has significant effect on the reducing of bipolar disorders. Results of this study has compatibility and coordination with research of Aghaiee *et al.* (1968) and Belloch *et al.* (2011) in the field of mental disorders. These research that study the relationship between CBT and mental health and mental disorders have been concluded that there is a significant relation between cognitive behavioral disorder and mental health and reducing of mental disorders such as bipolar disorder. Articulating this findings, it can be concluded that CBT is one of the determining factors the level of social adaptation and mitigating of bipolar symptoms. As well as, researchers have concluded that there are significant differences between CBT and symptoms of bipolar. Although, some research has not directly examined the effect of cognitive behavioral therapy on symptoms of bipolar disorder and although the volume of research in the field of study is low but all of the mentioned research in order to evaluate the effect or compare the effectiveness of this approach over other approaches to psychotherapy and psychological have had a significant impact on reducing of symptoms of bipolar disorder that confirm the result of this study. It can be concluded that psychological treatments along with drug therapy can be effective in reducing mental disorders and in the bipolar disorder field, it can help to stabilize ofmood of patients and prevent the recurrence of bipolar disorder and cause compliance of patient with the environment. According to the hypothesis of this research, cognitive-behavioral therapy reduces the dysfunctional attitudes of patients with bipolar disorder. The results of research is consistent with findings of Tesdale *et al.* (2000).

Results of the variance analysis with repeated measurement indicated that cognitive behavioral therapy reduces dysfunctional attitudes of patients with bipolar

disorder in the experimental groups compared with the control groups. Test results showed that cognitive behavioral therapy has a significant impact on the dysfunctional attitude of patients with bipolar disorder. According this findings, we can conclude that properties and factors of bipolar disorders includes severe damaged in logical power, judgment assess of facts, incompetence and lack of assertiveness and thus the inability to choose rational and practical ways to solve problems. So, cognitive behavioral therapy is effective in promoting of dysfunctional attitude with changing the attitudes and strengthen logic and power and the assessment of facts and increasing assertiveness. This test is consistent with Holon results because in CBT group, post-test level scores and dysfunctional attitude tracking has been reduced comparing to pre-test. In the dysfunctional attitude field, it can be concluded that moment by moment awareness of life experiences provide more alive and more effectively feeling in the life and as the experience to be more active and clearer, awareness is unconscious and it is prepared more accurate understanding and effective action around the globe that leading to better and more efficient feeling (Teasdale *et al*., 2000) and dysfunctional attitude of patient will reduce and thoughts and dysfunctional beliefs will disappear and the interaction of him with the environment is better and more.

According to the hypothesis that cognitive behavioral therapy will increase the quality of life of bipolar patients, the results of this study with the findings of research is consistent. Results of the variance analysis with repeated measurement indicated that cognitive behavioral therapy increases life quality of patients with bipolar disorder in the experimental groups compared with the control groups. Test results showed that cognitive behavioral therapy has a significant impact on the life quality of patients with bipolar disorder. According this findings, we can conclude that CBT decreases the anxiety and depression by making changes in the attitude, beliefs, increasing in the self-confidence and creation of logical taught. Also, it makes people to identify their irrational beliefs and replace them with rational beliefs and thus they expand their interaction and compatibility with the environment.

According to the hypothesis that cognitive behavioral therapy will have effect on the body performance of bipolar patients, we can conclude that CBT can be effective on the body performance of bipolar disorder. Also, results of this study is consistent with findings of Feizi (1970). Faizi studied the relationship between stress and critical component of life style that means physical activity and nutritional behaviors on quality of life. Results of the variance analysis with repeated measurement indicated that cognitive behavioral therapy increases body performance of patients with bipolar disorder in the experimental groups compared with the control groups. The test results showed that cognitive-behavioral therapy has the same effect on physical performance in patients with bipolar. According this findings, we can conclude that CBT increases the ability of persons about compatibility of stressful situations by the improvement of coping skills and so physically readiness of person that is anxiety coping strategies effectively and efficiently will be increased. These results are compatible with previous researches that indicates CBT causes optimal prevention of physical weakness and anxiety and increase physical performance, since the post-test scores and track physical performance is increased comparing with pre-test.

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