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The Investigation of Relative Effectiveness of Group Cognitive Therapy on Dialysis Patient's Mental Health

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ABSTRACT

Mental health and adaptation are the most effective human's behaviors to adapt environment. In the other words, mental health is very important and its sign is positive feeling, successful adaptation, adaptive and appropriate behavior. This study is kind of clinical trial which investigate efficacy of cognitive therapy on psychological health, social adjustment, depression and anxiety in dialysis patients. For this purpose, sample of 30 patients in Torbatejam were selected and also randomly divided into experimental group (n = 15) and control group (n = 15). Bell's Compatibility Scale, General health Goldberg, Beck depression and Spielberger's State-Trait Anxiety were used to measure subjects before and after treatment. The 90minutes sessions of cognitive therapy were performed in treatment group, while control group did not receive any treatment. After cognitive therapy, results were analyzed by t-test. Results showed that cognitive therapy significantly increased compatibility, mental health and also depression and anxiety levels were decreased. People with low mental health and depressed and anxious individuals are at risk or involuntary persistent recurrence and automatic thoughts, visual imagination and thoughts whisper that have threat of physical and emotional threats causing anxiety and depression. Cognitive therapies can identify thoughts that cause depression and anxiety and replace them with more logical choices. Thus it would raise level of adjustment and mental health of people with depression and anxiety.

Keywords: cognitive therapy, mental health, depression, anxiety, dialysis patients

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INTRODUCTION

According to various changes and complexity that exist in today lives, necessity for adjustment is important for humans. Compatibilities or adaptations are the most effective human behaviors to harmonize environment. Mental health is also very important and its signs are feeling positively, successful adaptation, desirable and pleasant behaviors [1]. Afrooz [2] believed mental health is as benefits of relaxation and being out of anxiety, depression and chronic psychological conflicts. On the other hand, mental health is health of mind and thought. In fact, mental health is described as satisfaction and psychological recovery and social compliance with accepted norms of society, such as health that are something more than absence of disease or other problems. According to Jung, process that makes integrity of human personality is individuality or self-realization [3]. Humans in their social life are encountering with different stresses which facing these problems experiencing depression and anxiety. One of these factors is lack such as bereavement or serious and chronic disease (heart, kidney, etc.). It is clear that chronic diseases expose people to risks such as depression, anxiety and reduce their mental health and social adjustment [4]. All over the world for patients who suffer renal failure, dialysis therapy is recognized as one of effective methods. The purpose of dialysis is to remove excess material, stabilize body's internal environment, immediate removal of waste and toxins that cause permanent or fatal injuries. Renal failure and its treatment affect all aspects of life more than other diseases. Therefore, psychosocial and social supports help patients for compatibility and reduce anxiety, depression, changes in family relationships, social activities, and sexual self-image is important [5]. Chapman *et al* [6] in their experimental study found that there is reciprocal relationship between depression and chronic diseases.

They also indicated that teaching cognitive therapy can reduce level of depression and effect on improving disease. The research Linden et al. [7] revealed that cognitive therapy interventions significantly reduced symptoms of depression and anxiety in patients with coronary heart disease. Kenner *et al* [8] found that presence of chronic diseases of all age's increases prevalence of depression and cognitive therapy interventions can be effective in reducing level of depression in these patients. The researches of Durham [9] and Chambliss & Gaullism [10] showed that cognitive-behavioral therapy in treatment of patients with generalized anxiety is more effective and more efficient than drug therapy and it works after period of 6 to 12-months follow-up. Lovas and Barsky [2001] concluded that cognitive therapy significantly improved anxiety disorders in both sexes [11]. Dobson [12] in comparison of cognitive therapy with other treat systems found that mean of receiving cognitive therapy is much higher and 98% of people who were trained by cognitive therapy were better than control group. Brown and colleagues [1991] indicated that cognitive treatments are better toward drug treatment [13]. Treatments that were recommended for anxiety and depressive disorders are cognitive therapies which have had successful outcomes [14]. Results of Strauss [1998] demonstrated superiority of cognitive therapy in depression and anxiety [15]. Hughes [16] used Cognitive behavioral therapy as method of self-control and to modify maladaptive cognitions. The results showed effectiveness of cognitive behavioral therapy in modifying maladaptive cognitions. Lassiter [17] knew cognitive therapy in method of Beck in creates effective process of information of depressed patients.

Dagleish & Watts [18] reported that severity of symptoms and cognitive therapy has been able to significantly reduce stress response.

Research results of Beck [1967] suggested that cognitive therapy can significantly reduce shyness at school, findings friends and has significant effect on social relationships [19]. According to report of Turner & Beadle [20], use of cognitive therapy for depressed patients showed that improve 85% of patients' academic performance, 95% of job and 69% of social issues. Goodstein & Lanyon [21] showed that cognitive therapy increased psychological compatibility level and reduces their negative self-assessment behaviors. Narimani & Rafighirani [22] found that between psychological health and cognitive coping strategies, self-control, social support, problem solving and reassessment thoughts there are significant positive correlation. Khodayarifard & et al. [23] found cognitive-behavioral interventions were effective on mental health of prisoners. Moosavinezhad [24] reported cognitive problem-solving skills to enhance social adjustment of students. Kaviani and colleagues [25] approved effectiveness of cognitive therapy on quality of life in people with depression and lower levels of depression. Nazemian et al. [26] reported effectiveness of cognitive therapy on reducing depression and anxiety in hemodialysis patients and improvement of their adaptability. The findings of Masoudialavi et al. [27] showed effectiveness of cognitive therapy on reducing depression and anxieties in patients undergoing renal replacement therapy [dialysis patients in particular] have followed same results. HosseiniNasab and *et al* [28] concluded that group cognitive therapy in reducing level of depression and increasing mental health in patients with multiple sclerosis.

Rahimian et al. [29] concluded that educating assertiveness cognitive styles is effective on compatibility of students. Sharif & Vedad [30] found that there is significant relationship between some of areas of quality of life and mental health of dialysis patients. Najmeh [31] showed effectiveness of cognitive therapy on decreasing anxiety and depression in patients who had had heart attacks. Zamanzadeh and colleagues [32] found that quality of life in 65.1 and social support 50.6 percent of dialysis patients is ideal and there is significant relationship between these two variables. In Selgi and colleagues' research[33] effect of cognitive therapy on reduced depression of male patients with HIV positive. Manoochehri et al. [34] confirmed effectiveness of group counseling, cognitive and emotional on mental health and reducing emotional disorders in infertile women. Forooghan et al.[35] reported effect of cognitive advice on mental health of mothers with depression and anxiety hearing impaired children. Atari and colleagues [36] found that instructions and cognitive interventions increased personal and social adjustment of criminal teenagers. Yaghmaee and colleagues [38] found that there is meaningful relationship between self-concept and various aspects of mental health of patients with dialysis. Nabazade[39] studied impact of social relations in mental health nursing. The finding of this research will show meaningful relationship between quality of social relationship and social adjustment of patients. Based on above, main objective of present study was to evaluate efficacy of cognitive therapy in group method to reducing symptoms of anxiety, depression, and increasing mental health and social adjustment of patients.

METHOD

This clinical trial is done to evaluate efficacy of cognitive therapy on compatibility, mental health, depression and anxiety in patients with dialysis. The static population of this study includes all dialysis

patients hospitalized in Taleghani in Torbatejam city. The sample for this study consisted of 30 patients (15 males and 15 females, married, 25 to 50 years) of dialysis patients who are selected by randomly sampling and replacement in experimental group (n=15) and control group (n=15). Bell's Compatibility Scale, Goldberg's General Health Questionnaire, Beck depression and Spielberger's State-Trait Anxiety Questionnaire were used to measure participants. Then, cognitive therapy in 10 sessions of 90minutes was performed in experimental group, but the control group did not receive any psychological treatment. After completion of treatment and doing posttests, results are analyzed by independent t-test.

Measures

Bell's Compatibility Scale: This questionnaire includes five separate levels of compatibility measuring (family compatibility, health and career, emotional and social). Bell [1962] reported reliability coefficients for subscales of family consistency, health, social, emotional, career, and for total test, respectively, 0.91, 0.81, 0.88, 0.91, 0.85 and 0.94. This scale also has shown high reliability in detection of normal neurosis groups and also has high correlation with Eysenck personality test. The reliability of questionnaire based on two halves of subscales of emotional, social, occupational, respectively, 0.94, 0.93, 0.96 and 0.95 for entire test. In test-retest method, coefficients 0.96, 0.90, 0.93 and 0.93 in emotional, social, occupational and total achieved. This was measured by Kuder Richardson respectively: 0.92, 0.092, 0.96 and 0.94 [40].

Goldberg General Health Questionnaire (GHQ): This questionnaire contains 28 items and 4 subscales of physical symptoms, anxiety, insomnia, depression and social deficient interaction. Validity of it by internal consistency (Cronbach's alpha) for physical symptoms 0.85, anxiety 0.78, deficient interaction 0.79, depression 0.91 and total score of questionnaire is 0.85 and its internal consistency for whole questionnaire was 0.90 [41].

Beck Depression questionnaire: This questionnaire was developed by Beck [1961]. It has 21 items and various aspects of depression: 2 questions about subject's emotional state or mood, 11 questions about detection of cognitive content, 2 questions about behaviors and 5 questions about symptoms and 1 question about interpersonal symptoms. If subjects score is between 0 and 9 it is considered normal. 10 to 18 scores is mild to moderate depression, 19 to 29 score is moderate to severe depression and score 30 to 63 indicates very severe depression. Beck [1972] has been reported general reliability of questions about 0.31 to 0.61 and general reliability of questions with correlation Spearman-Brown method has been reported about 0.93[42].

Spielberger's State-Trait Anxiety Questionnaire: This questionnaire has 40 items. These questions are two aspects which measure state anxiety and trait anxiety. Reliability of both scales according to Cronbach's alpha for anxiety state is 0.91 and for trait anxiety is obtained 0.90. The reliability of scale for questionnaire score has been reported 0.94[43].

Data analysis

In this study t-test in dependent and independent groups and ANOVA was used to analyze data. This analysis was performed by SPSS software version 19.

RESULTS

Table 1. T-Test on independent groups for experimental and control groups at Bell Compatibility Test

Variables Groups	Groups	Mean	SD	T-Test		
				t	df	Sig.
Bell's Compatibility	Men	Experimental	36.75	5.939	13	0.000
		Control	9.43			
	Women	Experimental	62.57	3.73	13	0.007
		Control	12.25			

As above table, in men and women group [$t=3.73$; $t=5.94$] with $df=13$ and [$t=1.77$; $t=1.67$], null hypothesis is rejected with 95% confidence and can be concluded that difference in means between control and experimental groups in Bell's Compatibility. According to data and significance of differences between means, we can conclude that cognitive therapies on subjects' compatibility are effective.

Table 2. T-Test for independent groups in experimental and control groups in public health

Variables Groups	Groups	Mean	SD	T-Test		
				t	df	Sig.
General Health	Experimental	22.8	7.163	6.826	28	0.000
	Control	2.2	9.237			

As above table, ($t=6.83$) with $df=28$ and ($t=1.7$), null hypothesis is rejected and 95% confidence conclude that means difference in both control and experimental groups approve in general health scale. In other words cognitive therapy is effective on mental health.

Table 3. T-Test for independent groups in experimental and control groups in Depression

Variables Groups	Numbers	Mean	SD	T-Test		
				t	df	Sig.
Experimental	15	10.07	5.812	4.224	28	0.000
Control	15	0.93	6.02			

Since ($t=4.22$) with $df=28$ and ($t=1.7$) so with 95% confidence conclude that means difference in both control and experimental groups approve on index of depression. In other words cognitive therapy was effective on level of depression.

Table 4. T-Test on independent groups for experimental and control groups in Test anxiety trait

Variables Groups	Numbers	Mean	SD	T-Test		
				t	df	Sig.
Experimental	15	17.07	9.684	3.365	28	0.002
Control	15	-0.4	17.614			

As above table, ($t=3.365$) with $df=28$ so null hypothesis is rejected and 95% confidence conclude that cognitive therapy is effective on anxiety.

DISCUSSION and Conclusions

The results showed that level of compatibility in experimental group after cognitive therapy had increased. Findings of this study is harmonious and compatible with results of Beck [42], Turner and Biddle [20]; Goodstein & Lanyon [21], Narimani & Rafighirani [22]; Moosavinezhad *et al.* [24]; Kaviani *et al.* [25]; Rahimian *et al.* [29], Sharif and Vedad [30]; Zamanzadeh *et al.* [32]; Manouchehri *et al.* [34], Atari *et al.* [36] and Nabazadeh [39]. According to results about effect of psychological training especially cognitive training on compatibility level of different groups it can be claimed that because conflicts is often cognitive errors and most of unhealthy behaviors are result of erroneous beliefs and incorrect interpretations, therefore, providing training and recognition to individuals can correct way of thinking, beliefs and ways of interpreting them and increase level of adaptation. Of course, it can be note that increasing cognitive skills and life improve new and more complex skills, these create positive self-understanding and person ultimately have better relationship with people around him and can establish social adaptation [28]. Results showed that after cognitive therapy, mental health of experimental group has increased. Findings of this study is compatible with results of Yghmaee *et al.* [38]; Manoochehri *et al.* [34]; Forooghan *et al.* [35] Khodayarifard *et al.* [23], Sharif and Vedad [30]; Zamanzade *et al.* [32]; Narimani & Rafighirani [22]; HosseiniNasab *et al.* [28] and Nabazade [39]. Ballard [44] showed that cognitive training and life skills are effective in enhancing social adjustment, but there was no significant difference variable such as self-esteem, self-concept and self-sufficiency. Dobson [45] concluded that cognitive training can improve mental health, reducing anxiety and depression and improved social functioning. Carver *et al.* [46] showed that group cognitive counseling affect positively on patients' perceptions toward themselves and others but there is not much effect on personal and social compatibility. Greenberg and colleagues [11] reviewed effect on support group to reduce depression and increase social adjustment and self-esteem of family. Results of this study showed that these instructions were effective on increasing self-esteem, social adjustment and reducing depression. Morris *et al.* [47] investigated effect of group cognitive counseling and problem solving model on educational and social adjustment and found no significant difference between control and experimental groups. Also, Spearman [48] found that short-term therapy control was effective on improvement of social adjustment, self-esteem. Therefore, it can be claimed that results of these studies are consistent with results of this research. Results showed that experimental group decreased depression level after cognitive therapy. Findings of this study is harmonious and compatible with results of Chapman *et al.* [6], Turner and Biddle [20]; Linden *et al.* [7]; Lassiter [17], Dobson [12], Houghs [16]; Selgi *et al.* [33], Forooghan *et al.* [35]. Since patients with depression have many cognitive errors, cynical, negative self-beliefs and weak thoughts so cognitive therapy (which is based on correction of faulty thinking and acquiring knowledge from cognitive biases) can be the most effective solution. The results showed that anxiety of experimental group after cognitive

therapy significantly decreased. Findings of this study was consistent with results of Chambliss & Gaullism [10],Durham [9]; Dalglish and Watts [18], Masoudialavi *et al* [27] and Kaviani, *et al* [25]. Beck [42] believed that mental preoccupation of depressed and anxious person with threats or involuntary repeat and continuous automatic thoughts, visual imagination and whispered thoughts that threaten physical and psychological content are cause of depression and anxiety and cognitive therapies can diagnose anxiety and depressed thoughts and replace them with more logical thoughts and therefore increase level of adaptation and mental health of subjects[50].Since this study can be preliminary investigation about effects of cognitive therapy on increasing adaptability, mental health and reducing levels of depression and anxiety in dialysis patients. By using convenience sampling, lack of access to clients for follow-up studies, lack of an independent appraiser, lack of attention to education, limited training, using amateurs in education, lack of monitoring homework subjects, limited statistical society and are some limitations of this study.

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