Original Article

Comparing the Effectiveness of Ellis' Rational-Emotive-Behavior Therapy (REBT) and Glasser's Reality Therapy (RT) on Reducing Depression Symptoms in Hemodialysis Patients and Control Group

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Abstract

Introduction: Dialysis as a treatment method in renal failure patients is a stressful process. This method has numerous psychological and social problems that can predispose the emergence of mental disorders in these patients. The present study was conducted to comparatively investigate the effectiveness of Ellis' Rational-Emotive-Behavior Therapy and Glasser's Reality Therapy in reducing depression symptoms in hemodialysis patients and control group. Research Method: The present research had a quasi-experimental design in which pre-test and post-test design with control group were used. The statistical population of this research included all hemodialysis patients in Imam Reza (AS) Hospital in Kermanshah in 2017-2018 among whom 45 people were selected as available and were randomly assigned to the experimental (30 people) and control groups (15 people). Patients were matched and randomly assigned to experimental and control groups based on some demographic characteristics. Each one of the experimental groups received eight sessions of psychological intervention in addition to their usual medical treatment, and the control group on the waiting list only received their usual medical treatment. Patients' depression scores` ratio was evaluated by Beck's Depression Inventory in pre-test and post-test, and then the data was analyzed using SPSS, version 22, software. Findings: The results of the present research showed that the depression scores of patients after the intervention in the three groups had a significant difference with each other. The results also showed that depression ratio in patients who had received Ellis' rational emotive therapy was significantly lower than that of Glasser's reality therapy ($p < 0.007$). Conclusion: Although Ellis' rational emotive psychological intervention and Glasser's reality therapy both reduced the depression symptoms and signs in hemodialysis patients, Ellis' rational emotive therapy was more effective than Glasser's reality therapy. To improve the psychological status of the hemodialysis patients, it is also recommended to use psychological treatments along with pharmacotherapy.

Keywords: Ellis' Rational-Emotive-Behavior Therapy, Glasser's Reality Therapy, Depression, Hemodialysis

Introduction

Many diseases, especially chronic and disabling types, have numerous psychiatric consequences. For this reason, the emergence of psychiatric disorders is prevalent followed by the creation of physical diseases [1]. The global statistics of end-stage renal failure was reported in about 1.1 million people in 2007, estimated to grow at 1-2% per year [2, 3]. In investigations conducted in Iran, the high prevalence of chronic kidney failure in the age group of over 60 years old has also been confirmed, and also in this investigation, the risk factors for diabetes and hypertension have been a major factor of this disorder [4]. In the results of most researches, the high prevalence of psychosocial-social disorders in hemodialysis patients is observed. There is no consensus about the severity of psychiatric complications` emergence among hemodialysis patients, but they all emphasize on this common point that the most prevalence symptom of mental illness in these patients is depression and following it, is the anxiety with less prevalence. Depression in 50%, anxiety in 30% of cases and other psychiatric disorders also in a lower ratio have been observed in them [5]. Other studies have

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shown that between 20-30% of dialysis patients have depression [6]. Jeurgenson et al. using Beck's Depression Inventory also reported in 1997 that between one-third and one-half of dialysis patients have moderate to high severity depression, and 85% of them have DSM-IV criteria for depression disorder when evaluated by a psychiatrist [7]. Kimmel et al. concluded in 2000 that there is a significant relationship between the severity of depression and mortality in dialysis patients [8].

Many therapeutic approaches have already been designed and conducted for the psychological problems of hemodialysis people. To treat depression, anxiety, and stress in patients undergoing dialysis treatment, non-pharmacological therapies such as music therapy, massage, and also exercise activities have often been used that have been obtained in relation to the effectiveness of the aforementioned methods` disputable results. Considering the above points, it seems that the issue of the rehabilitation of these patients is of special importance. The goal of patient rehabilitation is to develop and modify the quality of normal and near normal life.

Ellis' rational-emotive-behavior therapy is a type of cognitive-behavioral therapy invented by Ellis. Ellis (1999) believed that events and occurrences around people do not cause their tension, anxiety and depression, rather the people's views and beliefs of the events and occurrences lead to tension and anxiety in them and make their life encounter trouble. Although the relationship between beliefs (rational and irrational) and various types of therapeutic outcomes seems obvious to many therapists, unfortunately, empirical clinical data in this area is limited [9]. Conducted researches in various regions of the world show the effectiveness of rational-emotive-behavior psychotherapy on a variety of psychological components, problems, and disorders, such as irrational beliefs [10], anxiety [11], and depression [12].

Another important approach in depression treatment is Glasser's reality therapy; the reality therapy is a consultation method that teaches people how to manage their lives, make more effective choices and how to empower themselves to cope with the stress and problems of life [13]. Researches have shown that reality therapy is effective in reducing anxiety and increasing people's responsibility [14]. Matthews and Wells investigated the effectiveness of reality therapy in reducing anxiety. The results showed that reality therapy has had a significant effect on reducing their anxiety [15], although there are many evidences that show the recurrence ratio of depression symptoms in patients receiving behavioral cognitive therapy compared with pharmacotherapy that was significantly lower (26.5% compared to 56%) [16-19]. However, there are little evidences about the comparison of the long-term differential effects of various psychological interventions [20]. Although the existing researches indicated that various psychological treatments have equal effects over time [21], some evidences showed the superiority of some treatments [22]. No study has yet been conducted regarding the comparison of reality therapy approach with Ellis' cognitive behavioral therapy. The findings of the studies of Shapiro et al. (1995) showed that post-treatment outcomes for depression through CBT and interpersonal psychosis psychotherapy were equivalent, but in one-year follow-up evaluations, CBT showed significantly better results than interpersonal psychotherapy [23]. Regarding these contradictory findings, it seems logical that an important part of the studies of psychological therapies effectiveness should be related to the comparison of these interventions and the evaluation of the results of their effects in the follow-up period [24-26].

Research Method

The present research was applied in terms of goal, and it was semi-experimental in terms of methodology in which the pre-test and post-test design with control group was used. The statistical population of this research included all hemodialysis patients in Imam Reza (AS) Hospital in Kermanshah in 2017-2018, among whom 45 people were selected as available and were randomly assigned to experimental (15 people with reality therapy, and 15 people with rational-emotive-behavior therapy) and control groups (15 people). Having matched the subjects based on demographic characteristics (age, duration of illness, severity of illness, etc.), they were randomly assigned into three groups; one intervention group of rational-emotive-behavior therapy, one intervention group of reality therapy, and one control group.

Study inclusion criteria included having hemodialysis disease for at least 6 months, a BDI-II depression score of 14 to 28 (mild to moderate depression) and diagnosing a depression disorder based on diagnostic interview (SCID-I), tendency to participate in interventions (by signing an informed consent form), and having at least diploma education.

Research exclusion criteria included the existence of any other obvious disorder in Axis I (other than depression, stress and anxiety), the existence of psychotic symptoms and signs such as hallucination and delusion, the existence of a history of drug abuse or dependence at present or in the past, the existence of suicidal thoughts and severe depression, and receiving psychiatry or psychotherapy concurrently (patients should not have received psychological or drug treatment at least 6 months before beginning the study).

Research Measurement Tool

Demographic Questionnaire: A researcher-made questionnaire that is used to collect demographic information (such as age, gender, education level, occupation, and so on) from dialysis patients.

Structured Clinical Interview (SCID-I): Structured clinical interview should be conducted by an interviewer with clinical knowledge and experience in the field of psychopathology. Its Persian version has been validated in

Iran and has been used in psychiatric studies more than any other diagnostic interview [27].

Beck's Depression Inventory - Second Version (BDI-II):

This questionnaire is a 21-item self-report questionnaire to measure the severity of depression in adolescents and adults that was reviewed with the DSM-VI criteria for depression for more coordination in 1996. In this questionnaire, the answers are scored from 0 to 3. The cutoff points in BDI-II differ from BDI: 0 to 13 = non-depressed; 14 to 19 = mild to moderate depression, 20 to 28 = moderate to severe depression; and 29 to 63 = severe depression. Higher scores indicate more severe depression symptoms. The BDI-II has a correlation of r =+ 0.71 with the Hamilton Rating Scale for Depression (HRSD), and its one-week retest reliability is 0.93 [28]. In a sample of 94 individuals in Iran, the following psychometric properties were obtained for this scale: alpha coefficient = 0.91, correlation coefficient between the two half of the test =0.89, and retest coefficient =0.94 [29].

Group Training Protocol According to the Approach of Choice Theory and Reality Therapy [30]

First Session: Introducing the therapeutic program, its underlying rationale, introducing the group leader, group members, group rules and setting goals, investigating individuals' expectations of forming a group, and performing a pre-test.

Second Session: Introducing why and how the behavior is issued by us; why do we behave? How do we behave?

Third Session: Introducing MS disease in the simple language of what this disease is? What it does, and how emotions, excitements, and behavioral incompatibilities associated with it are affected by it, but are not directly resulting from it. Performing a pre-test before the session to assess their perception and understanding of their disease and its complications and consequences and performing a post-test at the end of the session.

Fourth Session: Introducing general behavior and familiarizing group members with the 4 components of general behavior: thought, action, emotion and physiology; performing several Role Play and clinical and nonclinical examples of the impact of action change and thought change on emotion change and physiology; and group exercise to demonstrate the effectiveness of thought and action change on the feeling and physiology.

Fifth Session: Introducing anxiety, stress, anger and depression from the viewpoint of choice theory, introducing four conflicts.

Sixth Session: Introducing the destructive and constructive behaviors of the human relations and the home assignment to observe it for the next session.

Seventh Session: Introducing and discussing about internal control by teaching ten principles of choice theory.

Eighth Session: Introducing Therapeutic System of Choice Theory and Reality Therapy: demands and requirements; direction and action; self-evaluation (self-assessment) and practical plan and helping the group to compile an objective plan to avoid applying and surrendering external control.

Ellis' Rational-Emotive-Behavior Therapy (REBT) Group Counseling Protocol Including 8 Sessions; Albert Ellis

First Session:	Introducing the group leader to the members, creating a desirable relationship with the group members, reviewing group rules, performing assignments, specifying group members' goals and expectations, psychological training: teaching alliance, thoughts, feelings, behavior in daily life, group activities, and offering home assignment.
Second Session:	Investigating Home Assignment: Stating major problems and issues of the members as well as the feedback and exchange of ideas, retraining behavior analysis (A-B-C) to make group members dominate behavior analysis topic, the activities of the group, offering home assignment, completion of thought, action, and emotion table.
Third Session:	Investigating Home Assignment: Investigating A-B-C tables, and removing probable problems in distinguishing between these cases. Psychological Training: Investigating Ellis' behavioral –cognitive model and the introduction of musts and must nots, the introduction of Ellis' irrational beliefs. Group Activity: Group discussion, expressing examples of daily musts and must nots. Offering Home Assignment: Reviewing the musts and must nots in real life situation.
Fourth Session:	Investigating Home Assignment: Investigating the musts and must nots and the comparison of members' views with each other. Psychological education, introducing the continuation of musts and must nots, creating catastrophe, and Ellis' irrational beliefs. Group activities and offering home assignment.
Fifth Session:	Investigating Home Assignment and Giving Feedback: Psychological training, cognitive reconstruction by replacing logical thoughts instead of irrational thoughts, recognizing the impact of irrational thoughts on the self-concept formation, and self-esteem and interpersonal relationship. Group activity, offering home assignment.
Sixth Session:	Investigating Home Assignment: Teaching problem solving method, group discussion, stating a problem, defining the problem precisely, pouring the thoughts for possible solutions without evaluation, investigating the solutions one-by-one, evaluation and selection of appropriate solution and offering home assignments.

Seventh Session:	Investigating Home Assignment and Removing Probable Problems. Teaching desirable interpersonal coping skills and social skills. Group activity and offering home assignment.
Eighth Session:	Investigating Home Assignment and Offering Feedback, summarizing and brief explanation of past topics, expressing members' feelings, and taking feedback from the members.

Data Analysis

In this research, SPSS, version 22, software and descriptive statistics (mean, standard deviation) and inferential statistics (to compare quantitative variables in two groups) as well as the analysis of covariance methods were used.

RESULTS

Table 1: Frequency of Educational Status in Three under Investigation Groups

Education	Group				
	Rational Emotive	Reality Therapy	Control	Total	Significance
Diploma	8	6	5	19	0.84
Bachelor	5	7	8	20	
Higher than Bachelor	2	2	2	6	
Total	15	15	15	45	

Table 2: Mean Age in the Experimental Groups

Group	Number	Mean	Standard Deviation	Minimum	Maximum
Ellis' Rational Emotive Training	15	38.33	7.99	24	52
Glasser's Reality Therapy	15	38.33	8.31	25	51
Control	15	37.13	7.03	29	50
Total	45	37.93	7.64	24	52

Table 3: Mean of Depression before and after Intervention in the Experimental Groups

Group	Test	Number	Mean	Standard Deviation
Ellis' Rational Emotive Training	Pre-Test	15	42.87	3
	Post-Test	15	24.47	2.67
Glasser's Reality Therapy	Pre-Test	15	38.27	5.13
	Post-Test	15	27.53	3.68
Control	Pre-Test	15	23.8	2.7
	Post-Test	15	21.53	1.99
Total	Pre-Test	45	34.98	45
	Post-Test	45	24.51	3.74

Table 4: Comparison of Depression Score after the Intervention, Using One-Way Analysis of Variance

Source of Changes	Sum of Squares	Degree of Freedom	Mean of Squares	F	P-Value
Depression	270.04	2	135.02	16.42	0.001
Group	345.20	42	8.21		
Error	615.24	44			

The table above shows the mean scores of depression before the intervention; the mean score of depression after the intervention in the three groups had significant differences with each other ($F_{42,2}$ = 8.21, p <0.001) and to specify the difference of which groups is significant, the Scheffe's Post hoc test was used, whose results are as follows:

Table 5: Comparison of Depression after the Intervention in the Groups, Using Scheffe's Test

Variable	Groups	Means of Differences	Significance Level
Depression after the Intervention	Ellis' Rational Emotive and Glasser's Reality Therapy	4.60	0.007
	Ellis' Rational Emotive and Control	19.06	0.001
	Glasser's Reality Therapy and Control	14.46	0.001

The above table shows that the groups of Ellis' rational emotive training and Glasser's reality therapy had a significant difference with each other, in a way that the effect of Ellis' rational emotive therapy was greater than that of Glasser's reality therapy on reducing depression symptoms and signs, and was statistically significant (P = 0.007). The results also showed that the effect of Ellis' rational emotive training group compared with the control group was greater on reducing depression symptoms and signs and was statistically significant (P = 0.001). The Glasser's reality therapy group had a greater effect on reducing depression

symptoms compared to the control group and was statistically significant (P = 0.001).

Discussion and Conclusion

This research was conducted with the aim of comparing the effectiveness of Ellis' rational-emotive-behavior therapy and Glasser's reality therapy in reducing depression symptoms in hemodialysis patients along with the control group of Imam Reza (AS) Hospital.

The findings of the present research showed that both Ellis' rational-emotive-behavior therapy and reality therapy had a significant effect on reducing depression symptoms and signs, but Ellis' treatment had more superiority to the reality therapy. In explaining this finding, it can be said that in Ellis' treatment, changing the attitude, belief, and behavior practice was emphasized, which in turn increased the power of explaining phenomena, the relationships between them and their controlling, and refers to the broader scope and aspects of the human being and emphasizes on all aspects of behavior. However, in comparison, the emphasis in the reality therapy is on responsibility training, how to control choices, and helping to properly satisfy emotional needs. In Ellis' rational-emotive-behavior therapy the existence of irrational beliefs in the individual is acknowledged and the need to replace irrational beliefs instead of rational beliefs in the individual is emphasized [31]. Therefore, the solutions presented during treatment sessions to the clients help the individual recognize the inefficient thinking patterns that lead to a feeling of inadequacy in the individual and replace it with rational and efficient thinking patterns. It is also important to present assignments in training sessions as well as to continue performing assignments at home, as doing assignments is a kind of practice of dealing with challenging and problematic situations in the real life that leads to increased effect of the treatment [32].

The results of the present research showed that depression ratio has been reduced as a result of Ellis' rational-emotive-behavior therapy and Glasser's reality therapy in comparison with control group. The results of this research were in line with the research results of Vatandoost et al. [33], Mirzaei and Akbari [34], Mougharab et al. [35], Salehi and Mohammadi Noor Sarab [36] and Zahir al-Din et al. [37]. Regarding the findings obtained from the research, it was specified that Reality Therapy and Ellis' Rational-Emotive-Therapy are effective in reducing the depression symptoms in hemodialysis patients in Imam Reza (AS) Hospital. In other words, it can be said that those patients participated in the experiment group, using reality therapy training and emotive rational therapy, have taken steps to reduce the depression symptoms and this method influenced them. To justify this finding, it can be said that in reality therapy what is so-called mental disease is considered with regard to the three issues of reality, responsibility and right and wrong; a person is regarded patient who cannot satisfy his two basic requirements in the realm of reality and accepting responsibility and the recognition of right and wrong cases. The severity of the disease also depends on the degree of an individual's inability to satisfy his needs. The so-called mental patients are those who have unsuccessful identity and suffer from the feelings of loneliness and worthlessness and in respect of diagnosis, they encounter the outside world in two ways; they either deny the reality, or ignore it. In other words, what is so-called a mental illness is actually various forms of denying the reality. Those who ignore the reality are aware of it, but resort to it to escape the pain and suffering resulted from the feeling of being unworthy and unimportant [38].

According to Glasser, humans do not become depressed, but they choose depression or display depression behavior. Being actively involved in an action helps individuals so that the depressive behaviors and the feelings of misery give their place to a sense of greater control over themselves that are associated with more positive emotion, more positive thoughts, and more physical comfort [38]. Psychological therapies have more advantages and consistency compared with medicine therapies. In this regard, it can be deduced that in Iran regarding that the majority of people are adolescents and young people, they may encounter social, family, and economic crises at various times [39]. Therefore, the use of this low-cost psychological therapies provided by counseling centers can bring back a positive and healthy spirit to the people of the community, so that they, as productive person, can perform duty in various parts of the community. This treatment method can help them cope with depression and dysfunctional beliefs that may affect people's health.

Research Limitations

The present research, like any other research, has had some limitations whose stating can make the findings and suggestions of the research clear and can be helpful for future researches to cope with the limiting factors of internal and external validity. The limitations of this research can be summarized as follows:

1. Another limitation was that hemodialysis patients participated less in group discussions at the end of the sessions because of early fatigue.
2. Lack of follow-up assessment in the study design due to the lack of easy access to the group participants.

Research Suggestions

Conducting researches with follow-up courses and investigating the long-term impact of reality therapy training and rational-emotive therapy over time:

1. Regarding the systemic function of the family; it is suggested that rather than merely intervening the patient, the family members and the patient's surroundings are also included in the training process so that by supporting him/her, the highest effectiveness is obtained.
2. Investigating factors such as socioeconomic status and education.

3. The effectiveness of this method should be investigated and compared with other methods of psychotherapy.
4. It is suggested that this treatment is also applied on other patients with acute physical problems such as people with AIDS, cancer, diabetes and Parkinson and its results are compared with the results obtained from this research.

Applied Suggestions

1. Considering the efficiency of group therapy in the mental health of chronic patients, it is suggested that hospitals provide the facilities necessary for the continuous formation of group therapy.
2. A program to introduce dialysis patients for using mental support services should be anticipated while using medical treatments also after the completion of the active course of medical measures.
3. Regarding the educational nature of this treatment, it seems that this treatment can also be beneficial for these patients individually.

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