

Psychosocial Adjustment in Major Depressive Disorder Based on Cognitive-behavioral Training: An Interventional Study

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Abstract

Background: Psychosocial adjustment problems can be obviously detected in patients with major depressive disorder. The present study aimed to assess the impact of cognitive-behavioral group training on psychosocial adjustment among patients with major depressive disorder.

Methods: This randomized clinical trial with pre/posttest design was conducted on 50 patients with major depressive disorder who were hospitalized in Ebnesina hospital, Shiraz, Iran. The intervention group took part in eight sessions of psychotherapy based on cognitive-behavioral approach. The participants completed Bell adjustment inventory before and two weeks after the intervention. After all, the data were analyzed using SPSS 22 software.

Results: The results revealed a significant difference between the two groups regarding the score of psychosocial adjustment after the intervention ($P=0.000$). Indeed, a significant difference was found in the intervention group's adjustment score before and after the intervention ($P=0.000$). A significant difference was also observed between the two groups regarding the difference in the adjustment scores ($P=0.000$).

Conclusion: It is expected that behavioral skills alongside cognitive skills can empower the individuals' capabilities to create more appropriate and purposeful relationships. Cognitive-behavioral training is a combination of behavioral and social skills together with modification of individuals' attitude and cognition.

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Introduction

Adjustment can be defined as a set of behaviors and actions shown by individuals in various circumstances to provide appropriate responses to stimulants.¹ The process of adjustment involves both individual and social dimensions. During this process, individuals are able to understand their own and others' behaviors and control their behaviors and reactions and meet their

needs in various situations.² Social adjustment is a learnable skill, which is created and developed through social interactions. During this process, individuals get conformed to conditions and social norms based on their facilities and capabilities.³ Adjustment is, in fact, an important sign of mental health. Social adjustment is based on the interaction between social situations and individual perceptions.⁴

In social environments, some people lose the

ability to cope with challenging situations quickly, resulting in depression, anxiety, antisocial behaviors, and suicide. On the other hand, some people can cope with such situations without any particular problems.⁵ Individual and social adjustment can be affected by values, attitude, beliefs, and culture. Stressors and diseases can affect the individuals' adjustment in various conditions as well.⁶ Proper adjustment can lead to life satisfaction and balance in expression of emotions, thoughts, and behaviors. Moreover, since social growth occurs through interaction with others and acceptance of social responsibilities, adjustment can result in comprehensive development of health.⁷

Major depressive disorder is an important health issue all around the world.⁸ Patients with major depressive disorder have a lower capacity for proper adjustment with stressful situations. Based on the etiology of this disorder, various therapeutic methods have been proposed,^{9, 10} including those based on cognitive-behavioral approach. Cognitive-behavioral therapy includes behavioral skills, cognitive restructuring, and modification of individuals' basic beliefs. In this process, creating feedback between a person's behavioral skills and beliefs leads to empowerment of compatible behaviors. This therapeutic approach is conducted in the form of a behavioral intervention accompanied with cognitive recovery, which involves evaluation of dysfunctional thoughts and modification of thoughts via their replacement with functional ones.¹¹

Overall, cognitive-behavioral therapy emphasizes the relationship among thoughts, emotions, and behaviors. Accordingly, individuals can develop more appropriate emotions and performances and conduct more proper behaviors by restructuring dysfunctional thoughts, identification of cognitive distortions, and substitution of appropriate thoughts.¹² After cognitive, emotional, and behavioral evaluations in this approach, there is an attempt to make use of all emotional and mental capacities as individuals' coping resources so as to eliminate their problems resulting from pressures and difficulties and promote their capabilities and adjustment.^{13, 14}

Up to now, numerous studies have been conducted on the effectiveness of cognitive-behavioral interventions on improvement of depression.¹⁵ For instance, DeRubeis conducted a study on 292 patients with depression and reported that both cognitive-behavioral intervention and pharmacotherapy were effective in improvement of depression symptoms.¹⁶ Also, the study carried out by Safaralinezhad showed that cognitive-behavioral group therapy was effective in improving depression in pregnant women.¹⁷ Idsoe also revealed that cognitive-behavioral interventions were effective in improvement of depression symptoms in depressed adolescents.¹⁸ Similarly, Nakao concluded that cognitive-behavioral therapy

could affect depression symptoms among patients with major depression.¹⁹ In the same vein, Attik et al. investigated psychosocial adjustment among patients with hepatitis. The results revealed the effectiveness of cognitive-behavioral training in the patients' psychosocial adjustment. However, few studies have addressed the issue of psychosocial adjustment in patients with major depressive disorder.

Depression is a serious emotional disorder manifested through social isolation and interpersonal communication disorder. Hence, it is of particular importance in the field of health.²⁰ Indeed, psychosocial adjustment disorders can be obviously detected in patients suffering from depression. Therefore, we designed and conducted this study by asking whether cognitive-behavioral group training is effective in psychosocial adjustment in patients with major depressive disorder. The results may help take steps towards promotion of mental health among such patients.

Methods

Study Design

In this clinical trial with pre/posttest design, the participants were divided into an intervention and a control group.

Sample Size

Due to the lack of similar studies in this field, the sample size was estimated using a pilot investigation. In doing so, 30 people (15 in each group) were considered as the pilot sample. Then, considering $\mu_1=37.46$, $\mu_2=25.6$, $S_1=5.5$, $S_2=6.19$, power=90%, and $\alpha=0.05$ and using the following formula, a 24-subject sample size was determined for the study.

$$n_1 = n_2 = \frac{(z_{1-\frac{\alpha}{2}} + z_{1-\beta})^2 \sigma^2}{(\mu_2 - \mu_1)^2}$$

Yet, the sample was increased to 50 (25 in each group) to enhance the study credibility. What follows includes the study results.

Sampling Method

Since simultaneous access to all samples was not possible at a specific time, the samples were selected in the first step by the available method. In the next step, they were assigned to the intervention and control groups using random block method. Since the number of hospitalized patients with major depressive disorder was lower than the required sample, sampling was done in five stages. Each block contained 5-6 samples.

Intervention

After obtaining the required permissions and

ethics code (IR.SUMS.REC.1396.29), the researcher referred to the psychiatric hospital and received written informed consents from the clients and their legal guardians. The inclusion criteria of the study were being hospitalized due to major depressive disorder by a hospital psychiatrist, lack of a history of psychosis, age range of 18-60 years, and ability to read and write. To reduce the effect of external variables on the results of this study, we tried to consider only patients who were taking one type of medication. According to the initial follow-up, most of the patients were hospitalized with Sertraline. The use of any anti-depressant or sedative other than Sertraline was considered as an exclusion criterion in the study. The exclusion criteria were suffering from cognitive disorders; abusing drugs; having psychotic disorders having learning problems; mental processes, and not having proper mental conditions for being trained via group therapy. At first, all patients were requested to fill out Bell Adjustment Inventory (BAI) designed in two dimensions, namely psychological and social adjustment. The patients with moderate to weak adjustment (scores >10 for males and >15 for females) were randomly allocated to the intervention and control groups. The intervention group participants took part in eight 90-minute sessions of cognitive-behavioral group therapy (two sessions a week), while the control group received the routine treatments in the ward.

The first phase of group therapy was carried out with five participants in each study group. Totally, five groups were considered, and 5-6 participants simultaneously took part in each group. The intervention was carried out through eight 90-minute group sessions held twice a week. These sessions included social skills-based cognitive-behavioral training based on the Beck Cognitive-Behavioral Guideline., as follows:

Session 1: Description of depressive disorder as well as its etiology and symptoms

Session 2: Training communication and verbal skills

Session 3: Training and practicing assertiveness skills

Session 4: Training problem-solving skills

Session 5: Training and practicing self-expression skills

Session 6: Identification of depressive cognitive errors

Session 7: Skill of substituting dysfunctional thoughts with functional ones

Session 8: Reviewing the previous sessions and repeating and practicing the learned skills

In each session, the participants actively practiced the skills individually or in groups via pre-designed worksheets and role-play. They were also provided with homework worksheets at the end of each session to practice until the next session. At the beginning

of the next session, the participants' homework was evaluated, and their problems were resolved.

The control group only received the routine therapeutic measures in the ward, which included medication. The two groups were required to complete the social adjustment test two weeks after the intervention. After all, the data were analyzed using SPSS statistical software, version 21. At first, normal distribution of the data was determined using Kolmogorov-Smirnov test. Independent t-test was used to compare the means between the two study groups. In addition, Kruskal-Wallis test was used to compare the means among three study groups. $P < 0.05$ was considered as statistically significant.

Data Collection Instrument

The study data were gathered using a demographic information form and BAI. The demographic information form included age, education level, marital status, place of residence, occupational history, history of drug and alcohol abuse, history of taking neuropsychiatric medications, and history of hospitalization in psychiatric hospitals.

BAI was developed by Bell in 1961 and standardized by Simon in Iran in 1986. This scale is used to evaluate adjustment in five dimensions, namely home, health, emotion, occupation, and society. In the present study, only emotional and social adjustments were taken into account.

Social adjustment: Higher scores represented separation and isolation from social contacts and surrender to the condition, while lower scores indicated aggressiveness in social relations. In this dimension, scores 3-6 in males and 5-8 in females represented good adjustment. Scores 7-15 in males and 9-19 females showed moderate adjustment. Finally, scores 16-20 in males and 20-24 in females indicated weak adjustment, and higher scores represented very weak adjustment.

Emotional adjustment: Higher scores were indicative of instability, while lower scores indicated emotional stability. In this dimension, scores 2-3 in males and 3-6 in females showed good adjustment and scores 4-11 in males and 7-15 in females showed moderate adjustment. Scores 12-15 in males and 16-20 in females represented weak adjustment, and higher scores were indicative of very weak adjustment.²¹

This questionnaire included 160 yes/no questions divided into five subscales. In the study by Naghshbandi, convergent validity of this questionnaire was reported to range from 0.36 to 0.65. Indeed, its reliability was found to be 0.93 and 0.86 based on Cronbach's alpha and split-half methods, respectively. The total score was also assessed using Spearman-Brown correlation, revealing 0.91 for home adjustment, 0.81 for health adjustment, 0.88 for social

adjustment, 0.91 for emotional adjustment, 0.85 for occupational adjustment, and 0.94 for the whole scale. These values confirmed the appropriate reliability of the instrument.²²

Ethical Considerations

This study was approved by the Ethics Committee of Shiraz University of Medical Sciences, Shiraz, Iran. All the participants were informed about the study objectives and signed written informed consents for taking part in the study. They were also reassured that not participating in the study had no effects on their status. Besides, they were free to leave the study at any time. Moreover, the participants' privacy and confidentiality were observed all through the study. At the end of the post-test phase, the prepared educational programs were given to the control group.

Data Analysis

After data collection, the data were entered into SPSS version 21.0. The data were analyzed using statistical methods, descriptive statistics analysis of means and standard deviations, and the Kolmogorov-Smirnov test (to assess the data normality assumption). Moreover, the paired t-test was used with the assumption of data normality to compare the mean scores before and after the intervention in both intervention and control groups.

Results

The mean age of the patients with major depressive disorder was 40.6±14.24 years in the control group

and 35.12±1.11 years in the intervention group. In the intervention group, 16 patients had below diploma degrees, four had diplomas, and five had bachelor's degrees. Additionally, eight patients were single, fourteen were married, and three were divorced. Besides, 21 participants in this group (42%) had the history of consumption of neuropsychiatric medications. All participants (28% in the intervention group and 30% in the control group) had the history of hospitalization in psychiatric wards. Furthermore, 21 patients in the intervention group and 14 in the control group were jobless, while the rest were employed (Table 1).

Kolmogorov-Smirnov test was used to determine the normal distribution of the data. Accordingly, the data followed normal distribution in both study groups ($P>0.05$). The results showed no significant differences between the two groups with respect to demographic variables ($P>0.05$).

As Table 2 shows, no significant difference was observed between the two groups regarding psychosocial adjustment score before the intervention ($P=0.27$). However, a significant difference was found between the two groups in this regard after the intervention ($P=0.000$).

The results revealed a significant reduction in the intervention group's adjustment score after the intervention compared to the baseline ($P=0.000$). A similar difference was also detected in the control group's adjustment score after the intervention in comparison to the baseline ($P=0.02$). The difference between the two groups regarding the difference in the adjustment score was statistically significant, as well ($P=0.000$).

Table 1: Qualitative demographic characteristics of the participants in the intervention and control groups

Group Frequency Variable	Intervention		Control		P value
	Number	Percentage	Number	Percentage	
Marital status					
Single	8	32	8	32	0.586
Married	14	56	14	56	
Divorced	3	12	3	12	
Education level					
Below diploma	16	64	11	44	0.174
Diploma	4	16	9	36	
Bachelor's degree	5	20	3	12	
Above bachelor's degree	---	---	2	8	
Occupation					
Self-employed	2	8	6	24	0.496
Employee	2	8	4	16	
Jobless	21	84	14	56	
Number of hospitalizations in psychiatric hospitals					
1	14	56	15	60	0.5
2	7	28	5	20	
3	3	12	3	12	
4	1	4	2	8	
History of taking neuropsychiatric medications					
Yes	21	84	21	84	0.649
No	4	16	4	16	

Table 2: Comparison of the mean difference of psychosocial adjustment scores in the two groups before and after the intervention

Adjustment scores	Before the intervention		After the intervention		Mean difference before and after the intervention	P value
	Mean	SD	Mean	SD		
Intervention	41.68	8.866	25.0	6.480	16.68	0.000
Control	39.52	7.024	37.64	6.50	1.8	0.02
P value	0.27		0.000		0.000	

Discussion

This study aimed to investigate the effectiveness of cognitive-behavioral group training in psychosocial adjustment among patients with major depressive disorder. The results revealed a significant difference in the intervention group's adjustment scores, which indicated the impact of cognitive-behavioral interventions on improvement of adjustment in patients with major depressive disorder. Idose,¹⁸ too, came to the conclusion that cognitive-behavioral interventions were effective in depression. Similarly, Attik²³ conducted a study and reported that cognitive-behavioral training affected psychosocial adjustment among patients with hepatitis C. Also, DeRubeis reported that cognitive-behavioral intervention was effective in improvement of depression symptoms and also in social adjustment.¹⁶

The results of this study are somewhat consistent with those of the study by Ashori, which demonstrated that group play therapy using cognitive-behavioral approach had an impact on social skills among primary school female students with cognitive problems.²⁴ The results were also in agreement with those of the study by Mohammadian, which revealed that cognitive-behavioral therapy had a significant effect on improvement of depression symptoms and increase of efficiency among patients with thalassemia.²⁵ Ineffective adjustment can be among the characteristics of depressed people, which affects social function. Hence, cognitive-behavioral approach can be effective in individuals' psychosocial adjustment by improvement of cognitive symptoms, increase of self-confidence, and creation of more influential viewpoints.

In the present study, a significant difference was observed in the control group's adjustment score after the intervention, which might have resulted from pharmacotherapy and other psychotherapies performed for the patients individually. Additionally, a significant difference was observed between the two groups with respect to the changes in the psychosocial adjustment scores. In this regard, a more significant reduction was found in the intervention group's adjustment score compared to the control group. This signified the effectiveness of cognitive-behavioral therapy in promotion of psychosocial adjustment.

Richard et al. conducted a study to compare the effects of behavioral therapy and cognitive-behavioral therapy in patients with major depressive disorder in Britain. In that study, 189 and 135 patients

were allocated to the cognitive-behavioral therapy and behavioral therapy groups, respectively. The researchers concluded that behavioral therapy was a simpler and more cost-effective method, which did not require complicated skills. Indeed, the therapeutic results of the two methods were not significantly different. Therefore, behavioral therapy technique was suggested.²⁶ Considering the fact that cognitive training requires long-term interventions compared to behavioral therapy, it is not logical to expect it to work in limited time intervals. In addition, cognitive and behavioral dimensions of therapy affect various aspects of depression. Hence, behavioral therapy technique cannot solely affect all dimensions of depression, particularly cognitive ones. Review of the literature revealed no studies with contradictory results with those of the present investigation.

After cognitive, emotional, and behavioral evaluations in cognitive-behavioral therapy, there has been an attempt to use individuals' emotional and psychological capacities as their coping resources so as to eliminate their problems resulting from pressures and difficulties and improve their capabilities and adjustment.¹⁴ Since depression is a serious emotional disorder that is accompanied with a considerable decrease in individual and social functions and is manifested through social isolation and interpersonal communication disorders, it is of particular importance in the field of health.²⁰ Effective adjustment can occur alongside life satisfaction and balance in expression of emotions, thoughts, and behaviors. Indeed, social growth can occur through interaction with others and acceptance of social responsibilities. Thus, adjustment can lead to comprehensive growth of health.²⁷

One of the limitations of the current study was the lack of a follow-up period due to not having access to the patients after discharge. Another study limitation was discontinuation of group therapy during the intervention due to the patients' discharge from the ward, which necessitated further sampling during the study.

In conclusion, cognitive-behavioral viewpoint is one of the most widely used theories in treatment of depression symptoms. Cognitive strategies generally aim at discovery and identification of negative thoughts and their replacement with efficient ones. This will eventually result in changes in individuals' perceptions of themselves as well as their values and capabilities. Behavioral skills together with cognitive ones can strengthen the individuals'

capabilities to create more appropriate and purposeful relationships. Hence, cognitive-behavioral training that is a combination of behavioral and social skills accompanied with modification of individuals' attitude and cognition which is among the underlying factors of depression can be effective in improvement of individuals' adjustment.

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