Health Tech Asmnt Act. 5(4). doi: 10.18502/htaa.v5i4.10168

Research Article

Effectiveness of Acceptance and Commitment Therapy and Cognitive Behavioral Therapy on Individual and Social Adaptation of Addicts

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Received 2021 September 17; Accepted 2021 September 28.

Abstract

Background: Addiction is a pervasive problem that causes physical problems and affects the adaptation of addicts. This study investigates the effectiveness of acceptance and commitment group therapy (ACT) and cognitive-behavioral therapy (CBT) on individual and social adaptation of addicts referred to comprehensive health service centers in Birjand.

Methods: The present experimental study utilized a pretest-posttest design with a control group. All addicted people referred to health centers in the suburb of Birjand, which is among the city's vulnerable areas, were selected in 2020. The subjects were selected by a convenience method and randomly divided into three groups of 32 persons according to the study's objectives. The study questionnaire was the California test of personality. Cognitive-behavioral group therapy and acceptance and commitment therapy based on treatment protocols were held in 12 sessions of 60 minutes. The questionnaires were completed before the intervention and one month after the intervention in the three groups. Then, the data were entered into SPSS version 16 software. Analysis of variance, paired t, independent t, and chi-square tests analyzed the data. In all analyses, a significance level of less than 05.0 was considered.

Results: There was no difference between the three groups regarding age, occupation, and education level. The mean scores of social adaptation after the intervention were 57.47 ± 12.33 and 47.90 ± 5.93 in the ACT and CBT groups, respectively. The variance analysis showed that the mean scores of social adaptation were significantly different in three groups before and after the intervention ($P < 0.001$). Also, the mean score of social adaptation in the ACT group significantly increased after the intervention compared to before ($P = 0.02$), but there was no significant difference in the CBT and control groups before and after the intervention. After controlling for social and individual adaptation before the intervention, the variance analysis showed a significant difference in the score of social adaptation between the ACT, CBT, and control groups ($P < 0.001$). There was also a significant difference in individual adaptation scores between the three groups ($P < 0.001$).

Conclusions: Both treatments based on acceptance and commitment and cognitive-behavioral therapy were influential on the individual-social adaptation of addicts. Nevertheless, the acceptance and commitment therapy approach had a more significant impact on improving the social adaptation of addicts.

Keywords: Effectiveness, Acceptance and commitment therapy, Cognitive Behavioral Therapy, Social Adaptation, Addicts

1. Background

Humans have used addictive drugs for thousands of years to treat diseases and relieve pain. Nevertheless, drugs have transcended clinical and healthy boundaries, and today drug abuse has become a socio-psychological problem. Over the past century, the increase in drug use has increased concern for all communities (1). The World Health Organization estimates that 13 million people are injecting drugs worldwide, and drug abuse has become a significant concern (2). Drug use and dependence affect all aspects of life (3), including the individual's adaptation (4), so that addicted people, when confronting stressful situations, show maladaptive behaviors and emotional and social incompatibility (5). A study stated that the consumer is uncontrollable when drugs do not arrive and create problems in terms of adaptation, especially social adaptation and interpersonal relationships

(6).

In addition, abusers endure more excitement when faced with life issues and problems; as a result, they are unable to solve the problem (7). Therefore, being in stressful situations and using inefficient problem-solving methods can create a vicious cycle, increase stress, reduce social adaptation, and as a result, increase the return rate of these people (8, 9). Among the measures improving the adaptation of these people is cognitive-behavioral therapy (10). The study results showed that group therapy is effective in the individual and social adaptation of addicts. Cognitive-behavioral group therapy focuses on actions and beliefs related to drugs and spontaneous thoughts that play a role in drug attraction, changing maladaptive behaviors, thoughts, and feelings. Therefore, it can be concluded that the person will gain more adaptation (6).

In addition, the results showed that cognitive-behavioral group therapy is effective in the social and emotional adaptation of addicts and can be an effective method for treating addiction and improving their adaptation problems (11). Cognitive-behavioral therapies cause isolation, which often results from addiction, and keeps people away from different communities, breaks down in the group and in interaction with other members who have similar problems, and arises a situation where these people test their delusional fears in the group; in this way, they can overcome them (12, 13).

Also, providing conditions for practicing behaviors in natural, spontaneous, and multiple situations, the possibility of assessing social skills and expression of individuals by the therapist, increasing motivation and perseverance in addicted patients, and increasing group associations are the benefits of cognitive-behavioral therapies (14), which can lead to higher social adaptation of these people. On the other hand, weakness in social skills and social performance leads to maladaptive behaviors and a tendency to drug use and addiction (15). In a study (16), the health of drug users was limited to their social environment; and social environment, in interaction with individual adaptation, affected high-risk behaviors, including drug use (17). Petitjean et al. concluded that cognitive-behavioral therapy, alone or combined, reduces consumption during the treatment period (18).

In addition to cognitive-behavioral therapy, acceptance and commitment therapy can effectively reduce addicts' risky behaviors and adaptation (19). Unlike many therapeutic methods that emphasize the reduction or control of symptoms of the disease, acceptance and commitment therapy emphasizes increasing the acceptance of negative reactions (such as negative thoughts and emotions) when direct change is not possible (20). Acceptance and commitment therapy (ACT) encourages clients to change their relationships with thoughts and other inner experiences and accept internal events when they are not struggling with their anxieties and confusions, letting them develop their behavioral treasury and use the time they earn to carry out valuable activities and commit to a valuable life (21). Thus, the addicted person can better resist drug use (19).

Drug addiction or drug-related disorder has a remarkable complexity due to the biological-psychological-social nature of humans. Hence, treating this disorder with an emphasis on a sole approach is often complicated and ineffective. The most effective therapeutic approach to reducing or leaving addictive drugs involves a combination of physical and psychological methods.

2. Objectives

Due to the importance of this type of treatment in improving clients, this study was conducted to investigate the effectiveness of acceptance and commitment therapy (ACT) and cognitive-behavioral therapy (CBT) on individual and social adaptation of addicts referred to comprehensive health services in South Khorasan province.

3. Methods

The present experimental study utilized a pretest-posttest design with a control group. All addicted people referred to health centers in the suburb of Birjand, which is among vulnerable areas of the city, were selected in 2020. The subjects were selected by a convenience method and randomly divided into three groups of 32 persons according to the study's objectives. Permission was obtained from Birjand University of Medical Sciences to select addicted people meeting the inclusion criteria (people with drug abuse, intending to cease drug use, and giving informed consent to participate in the project). Also, the necessary coordination was done with the comprehensive service center for the training place, and training classes were held in that center. In this study, cognitive-behavioral group therapy was based on the treatment protocol in 12 sessions of 60 minutes on 32 people. Acceptance and commitment group therapy was based on the treatment protocol in 12 sessions of 60 minutes on 32 people. The control group included 32 people who did not receive any training.

In the first session, the questionnaires were filled out by persons in the cognitive-behavioral group therapy and acceptance and commitment group therapy. In the last session, the questionnaires were distributed again in each group. The control group received the same questionnaires in the first and last sessions without training. The questionnaires used in this study are as follows.

3.1. California Test of Personality

This scale was developed in 1953 to measure different life adaptations, with two poles of individual and social adaptation. This questionnaire has 180 two-choice questions in the form of yes and no. Half of the questions are designed to measure individual adaptation, and the rest measure social adaptation. This test has 12 subscales in

personal adaptation, six specific scores related to self-reliance factors, understanding self-value, personal freedom, feelings of dependence, repressed tendencies, and neurological symptoms. From the total scores of this section, a final score is obtained as individual adaptation. In social adaptation, six specific scores are related to the factors of social templates, social skills, anti-social interests, family relationships, school relations, and social relations. From the total scores of this section, a final score is obtained as social adaptation (12).

The reliability of this test in a preliminary study using Cronbach's alpha test was 0.87 for the individual adaptation subscale and 0.85 for the social adaptation subscale. Researchers in one previous study (22) reported the validity of the California test of personality scale in individual adaptation, social adaptation, and total scale by significantly correlating the questions of individuals' relationship criteria to themselves and others in these areas. In a previous study, the reliability coefficients of this questionnaire were 0.90 and 0.76 using Cronbach's alpha method and split – half method for the whole scale, respectively (23).

3.2. Cognitive-behavioral Group Therapy

Cognitive-behavioral group therapy was based on the treatment protocol in 12 sessions of 60 minutes as follows (Table 1).

Table 1. Cognitive-behavioral Group Therapy Protocol

Session	Content of the Session
The first session	The introductory acquaintance between group members, determining group rules, identifying common problems between all, and completing pretests
The second session	Familiarity with the cognitive-behavioral model and the relationship between thoughts, feelings, and behavior
The third session	Advantages and disadvantages of drug use, antecedents, aftermaths, and positive and negative consequences
The fourth session	Reviewing the contents of the previous session, gaining the ability to abstain, overcoming the anger, depression, etc., identifying the antecedents, aftermaths of drug-seeking behavior, place, time, person, or special feelings that motivate the person, examining thoughts before, during, and after consumption + worksheet
The fifth session	Coping with craving, accepting craving, training to fight the craving
The sixth session	Refusal and decisiveness skills, teaching the skill of saying "no"
The seventh session	Communication skills training
The eighth session	Problem-solving skill
The ninth session	Anger control skills
The tenth session	Dealing with cognitive stimuli
The eleventh session	Dealing with depression and anxiety
The twelfth session	Planning for the future, completion of questionnaires by the group

3.3. Acceptance and Commitment Group Therapy

According to the treatment protocol, acceptance and commitment group therapy was performed in 12 sessions of 60 minutes as follows (Table 2).

Table 2. Acceptance and Commitment Group Therapy Protocol

Session	Content of the Session
The first session	The introductory acquaintance between group members, determining group rules, identifying common problems between all, and completing pretests
The second session	The process of introducing ACT, creating innovative frustration, and efficiency as a measurement criterion
The third session	Expressing control as a problem, not as a solution, measuring performance, and previewing next week's exercise
The fourth session	Reviewing the experiences of previous sessions, behavioral homework and commitment, introducing faulting, application of cognitive defusion techniques
The fifth session	A review of the observer's behavioral task and commitment, revealing separation between self, inner experiences, and behavior, self-observation as context, weakening of self-concept, and self-expression
The sixth session	Self-conceptualized adhesion, performance measurement, application of mindfulness technique, the contrast between experience and mind, modeling the exit from the mind, learning to observe inner experiences as a process

The seventh session	Measuring performance, introducing the concept of value, showing the dangers of focusing on results, discovering the practical values of life
The eighth session	Determining the values and goals, committed action of each person, understanding the nature of desire and commitment, and determining patterns of action per values
The ninth session	Determining the goals in the path of values + homework + committed action
The tenth session	Acceptance in line with taking effective action, seeing the problem as an opportunity
The eleventh session	Behavioral commitment and adherence to it, examining the problems existing during the group therapy process
The twelfth session	Planning for the problems ahead, having the ACT tool in hand, completing the questionnaires by the group

The control group included 32 people who did not receive any training. The questionnaires were completed before the intervention and one month after the intervention in three groups. Then, the data were entered into SPSS software version 16. Analysis of variance was used to compare quantitative variables between the three groups. The chi-square test was used for qualitative variables. A paired t-test was used to analyze the data. Analysis of covariance was used to control for social and individual adaptation variables before the intervention. In all analyses, a significance level of less than 05.0 was considered.

This study was supported by Birjand University of Medical Sciences, Birjand, Iran. The ethical approval code is IR.BUMS.REC.1400.017.

4. Results

In this study, 96 people in three groups of 32 were examined for individual and social adaptation. There was no difference between the three groups regarding age, occupation, and level of education.

The mean scores of social adaptation were 57.47 ± 12.33 and 47.90 ± 5.93 in the ACT and CBT groups after the intervention, respectively. The variance analysis showed that the mean scores of social adaptation were significantly different in the three groups before and after the intervention ($P < 0.001$). Tukey's post hoc test showed that the mean scores of social adaptation before and after the intervention were significantly higher in the ACT group than in the CBT and control groups ($P < 0.001$). Also, the mean scores of social adaptation before and after the intervention were significantly higher in the CBT group than in the control group ($P < 0.05$). Also, the paired t-test showed that the mean scores of social adaptation in the ACT group were significantly higher after the intervention than before the intervention ($P = 0.02$), but there was no significant difference in scores of the CBT and control groups before and after the intervention (Table 3).

Table 3. The Mean Scores of Social Adaptation in ACT, CBT, and Control Groups Before and After the Intervention

Result of Variance Analysis Test /Variable	ACT	CBT	Control	Result of Variance Analysis Test
Social adaptation				
Before intervention	52.28 ± 3.85	48.15 ± 11.75	43.97 ± 4.80	$F = 9.40$; $P > 0.001$
After the intervention	57.47 ± 12.33	47.90 ± 5.93	43.68 ± 4.89	$F = 22.37$; $P > 0.001$
Paired t-test	$t = 2.44$; $P = 0.02$	$t = 0.17$; $P = 0.86$	$t = 2.44$; $P = 0.02$	

The mean scores of individual adaptation were 54.97 ± 12.19 and 47.40 ± 5.75 in the ACT and CBT groups after the intervention, respectively. The variance analysis showed that the mean scores of individual adaptation were significantly different in the three groups before and after the intervention ($P < 0.001$). Tukey's post hoc test showed that the mean score of individual adaptation before and after the intervention was significantly higher in the ACT group than in the CBT and control groups ($P < 0.05$). Also, the mean scores of individual adaptation before and after the intervention were significantly higher in the CBT group than in the control group ($P < 0.05$). Also, the paired t-test showed that the individual adaptation scores were not significantly different before and after the intervention in the ACT, CBT, and control groups (Table 4).

Table 4. The Mean Scores of Individual Adaptation in ACT, CBT, and Control Groups Before and After the Intervention

Result of Variance Analysis Test / Variable	ACT	CBT	Control	Result of Variance Analysis Test

Individual adaptation				
Before intervention	52.68 ± 5.02	46.72 ± 12.15	39.87 ± 7.01	F = 17.77; P >0.001
After the intervention	54.97 ± 12.19	47.40 ± 5.75	40.31 ± 7.10	F = 21.92; P >0.001
Paired t-test	*t* = 1.05; P = 0.30	*t* = 1.27; P = 0.79	*t* = 1.99; P = 0.05	

After controlling for social and individual adaptation variables before the intervention, the analysis of covariance showed a significant difference in the scores of social adaptation between the three groups of ACT, CBT, and control (P < 0.001). There was also a significant difference in individual adaptation scores between the three groups (P < 0.001) (Table 5).

Table 5. Univariate Analysis of Covariance to Compare Two Groups for Social and Individual Adaptation

Variable	Total Squares	Degree of Freedom	F Value	Significance Level	Effect Size
Social Adaptation	2051.79	2	14.84	>0.001	0.25
Individual Adaptation	1284.58	2	8.98	> 0.001	0.17

5. Discussion

This study aimed to evaluate the effectiveness of acceptance and commitment therapy (ACT) and cognitive-behavioral therapy (CBT) on individual and social adaptation of 96 addicts referred to comprehensive health service centers in Birjand. This study showed that the mean score of social adaptation in the ACT group was significantly higher after the intervention than before the intervention (P = 0.02), but there was no significant difference in the CBT and control groups before and after the intervention. The test results also showed that individual adaptation scores in the ACT, CBT, and control groups were not significantly different before and after the intervention. However, after controlling for social and individual adaptation variables before the intervention, the covariance analysis showed a significant difference in the scores of social adaptation between ACT, CBT, and control groups.

The results of previous studies (17, 20, 24, 25), in line with the present study, showed that acceptance and commitment-based group therapy effectively improves adaptation. Of course, it should be noted that the statistical populations of the two mentioned studies were different from the statistical population of the present study, but the mentioned studies obtained results consistent with the present study.

Drug use and dependence affect all aspects of life (3), including individuals' adaptation (4). On the other hand, acceptance and commitment therapy can make positive changes in the adaptation by combining vitality and seeing experiences clearly and accepting them. This is because acceptance and commitment therapy helps moderate negative behavioral patterns and automatic thoughts (26).

Unlike many therapies that emphasize reducing or controlling symptoms, treatment based on acceptance and commitment emphasizes increasing the acceptance of negative reactions (such as negative thoughts and emotions) when direct change is not possible (20, 27). Acceptance and commitment encourage clients to change their relationships with thoughts and other inner experiences. Besides, acceptance of inner events, when a person is not in conflict with his anxieties and confusions, allows him to develop his behavioral treasury and use the time he gets in this way to do valuable activities and commit himself to a valuable life (21). Hence, the addicted person can better resist drug use (19). Acceptance and commitment-based followers also believe that recognizing thoughts and emotions should be done in the conceptual context of events. For this reason, unlike cognitive-behavioral methods that correct inefficient cognitions and beliefs to correct emotions and behaviors, acceptance and commitment-based therapy teaches the person to accept his thoughts and emotions in the first step, live in the moment, and have more flexibility and adaptability (28). The study showed a significant relationship between cognitive-behavioral group therapy in addiction treatment and the improvement of adaptation problems. Nevertheless, this study did not use both treatments together to determine the actual outcome of the treatment (11).

5.1. Conclusions

The results showed that both treatments based on acceptance/commitment and cognitive-behavioral therapy were influential in the individual-social adaptation of addicts. However, the therapeutic approach of acceptance and commitment had a more significant impact on the social adaptation of addicts.

5.2. Limitation

In the present study, we tried to examine all the aspects and have all conditions as comprehensive as possible.

However, self-reporting may have affected the results.

Authors' Contribution:

All the authors were involved in writing and reading, and they approved the final version of the manuscript.

Conflict of Interests:

The authors declare no competing interest.

Ethical Approval:

This study was supported by Birjand University of Medical Sciences, Birjand, Iran. The ethical approval code was IR.BUMS.REC.1400.017. (ethics.research.ac.ir/EthicsProposalView.php?id=191269)

Funding/Support:

None to declare.

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