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Comparison of the Effectiveness of Acceptance and Commitment Therapy and Quality of Life Improvement Training on Distress Tolerance and Self-Destructive Behaviors in Substance Abusers

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Abstract

Introduction: Drug addiction is one of the most serious psychological, social, economic, and health hazards that needs prevention and treatment considering its serious consequences for the individual and human society. The purpose of this study was to compare the effectiveness of acceptance and commitment therapy (ACT) and quality of life improvement training (QOLT) on distress tolerance and self-destructive behaviors in substance abusers.

Methods: This was a quasi-experimental study with pre- and post-test design and a control group. The statistical population included men over 20 years old referred to addiction treatment centers in Mashhad. The sample consisted of 45 volunteers who were selected by purposive sampling method and were divided into 3 groups (two experimental and one control group). Experimental groups received ACT and skills training based on the quality of life, while the control group did not receive any experimental intervention. The Distress Tolerance Scale (Simons and Gaher) and Self-destructive Behavior Questionnaire (Owens) were used as research tools in the study. Data were analyzed by multivariate analysis of covariance using SPSS version 24.0 software.

Results: The results of the analysis of covariance showed that the therapeutic methods used in this study were effective in improving distress tolerance and self-destructive behaviors in men with substance abuse ($P<0.001$). Moreover, according to the Bonferroni follow-up test, there was no significant difference between the two treatments.

Conclusion: ACT and QOLT significantly improved distress tolerance and self-destructive behaviors in substance abusers.

Keywords: ACT, QOLT, Distress tolerance, Self-destructive behaviors, Substance use

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Introduction

Drug abuse as a multifaceted psychological, social, and economic phenomenon has devastating effects on the individual and society and has a direct relationship with quality of life and mental disorders.[1,2] Drug abuse and addiction have many devastating effects on mental processes and disorders and lead to self-destructive behaviors in individuals.[3,-8]

There are many therapeutic methods used to prevent drug abuse and improve the health of the community, however, a relatively high percentage of relapse after receiving treatment for drug disorders and related dependencies has caused concern for the community.[9,10] Based on the studies on various aspects of rehabilitation and pathology of relapse, the most important contributing factor in people with substance abuse include awareness of emotions and thoughts, presence of conscious mind and value-driven goal of improving their skills and quality of life.[11] Life skills can be considered as a coherent and purposeful set of individual and social abilities in psychological and interpersonal dimensions.[12-14]

Overall, it can be said that in most of the phenomena associated with social-

psychological trauma at the community level, there is a significant relationship between deficits in emotion awareness and lack of recognition of the core values related to life skills in the individual and interpersonal dimensions.[15] Awareness of the skills needed for improving the quality of life (i.e., quality of life improvement training [QOLT]) can affect many psychological aspects of one's life.[16]

Acceptance and commitment therapy (ACT) is also one of the third wave cognitive-behavioral therapies that affects people's quality of life. The primary goal of treatment is acceptance and commitment to enhancing the quality of life by reducing the impact of ineffective control strategies and supporting value-based behavior change.[17] This goal is achieved through experiential exercises that target psychological flexibility. Psychological flexibility is comprised of six main processes in ACT including attention to the present moment, values, experiential acceptance, cognitive dissonance, resilience, and commitment.[18]

Quality of life is a valid indicator and criterion for measuring and evaluating the outcomes of therapeutic interventions and psychotherapy services for the psychological trauma of the community.[19] There are various definitions of quality of life; however, they generally include meaningful individual beliefs, personal and interpersonal relationships, physical health, mental and social status as measured by individuals' subjective biological experiences.[20,21]

Khantzian's theory of self-medication as one of the psychological theories of drug abuse indicates that people with drug abuse have low distress tolerance in peripheral movements and have a high degree of self-destructive behaviors.[22] Self-destructive behaviors are deliberate or non-deliberate destructive activities that harm individuals. They are unaware of the consequences for themselves, directly or indirectly family, peers and even society in the broadest sense of the word. Drug addiction is one of the factors contributing to self-destructive behaviors.[3,23] Some studies consider low tolerance levels to be important in initiating, maintaining, and resuming drug use.[24] According to cognitive perspectives, addictive behaviors are influenced by individuals' beliefs and attitudes.[25] However, new cognitive theories have also emphasized the role of metacognition in the etiology and persistence of mental disorders including addiction.[26] From a meta-cognitive point of view, substance abuse causes significant changes in cognitive events, such as feelings, thoughts, or memories.[27,28-30]

Distress tolerance is a psychological construct related to the individual's ability to experience and endure adverse emotional states.[22] Distress tolerance is another effective factor in assessing and preparing individuals for substance use disorder. [23-25] Generally, a person with low distress tolerance in coping and strategic endeavors fails to alleviate the stresses caused by negative emotions and emotions that are trapped in behavioral disorder and relieve some of their self-destructive behaviors such as substance abuse.[25,26]

The results of a study by Dodgers et al showed that low stress tolerance exacerbates delinquent behaviors and increases the risk of alcohol abuse.[27] In a research by Toneatto et al, the confusion tolerance as a coping strategy in post-traumatic stress disorder (PTSD) and marijuana users has shown great intensity.[28,29] Moreover, a study by Najafi et al showed that emotional activity, cognitive dysregulation, and distress tolerance play important roles in having tendency towards substance use.[30]

The substance use disorders caused by repeated and abnormal drug use, medications, alcohol, and so on are often associated with a great deal of distress, lack of coordination in cognitive regulation, lack of emotional awareness, and problems in personal and occupational social contexts.[31]

QOLT is one of the strategies for preventing substance use and quitting addiction in people with substance use disorders. This training aims to create a model for life satisfaction and psychological well-being of substance abusers. In this therapeutic-educational model, there are sixteen essential areas in the lives of people with substance use disorders that are assessed and measured based on the Casio model.[32-34]

Given the increasing number of people with substance use and relapse in addiction treatment in the community as well as the importance of paying attention to the complex phenomenon of addiction as a "century-old disaster", the need for effective and multifaceted interventions is felt. Considering the need for implementing effective treatment plans for substance abusers, this study was conducted to compare the effects of ACT and QOLT on distress tolerance and self-destructive behaviors in substance abusers.

Materials and Methods

Population and Sampling Method

This was a quasi-experimental study with pre- and post-test design and a control group. The study was performed on 45 men over 20 years in Mashhad. Subjects were randomly divided into 3 groups (two experimental and one control). Experimental groups received the ACT and QOLT interventions aimed at promoting distress tolerance and reducing self-destructive behaviors, while the control group received no treatment. Purposive sampling method was used.

Inclusion Criteria

The inclusion criteria were as follows: being substance abuser, being over 20 years of age, being diagnosed with drug addiction one year prior to the study, not receiving co-counseling during the study period, not using psychiatric drugs, attending treatment sessions, and having willingness to participate in the study.

Measurement Tools

Self-destructive Behavior Questionnaire

The Self-destructive Behavior Questionnaire developed by Owens was used to assess self-destructive behaviors. Brigham and Solomon reused this questionnaire (mainly to assess alcohol consumption, drugs, and self-destructive behaviors) and revised it.[35,36] This questionnaire was standardized in Iran.

The validity and reliability of this 9-item questionnaire were assessed in a study on 873 students of Ferdowsi University of Mashhad using Cronbach's alpha coefficient. A Cronbach's alpha coefficient of 0.83 was obtained, indicating a strong validity for this questionnaire.[37]

Distress Tolerance Questionnaire

Distress Tolerance Questionnaire is a self-report measure of Likert-type which was developed and implemented by Gaher and Simons (2005) for assessing emotional distress. This questionnaire consists of 15 items and has 4 subscales including absorption (absorbed by negative emotions: questions: 15, 4, 2), tolerance (emotional distress tolerance: questions 3, 5, 1), adjustment (effort to relieve disturbance: questions: 14, 13, 8), and evaluation (subjective estimation of disturbance: questions 12, 11, 9, 10, 7, 6).

Cronbach's alpha coefficients reported by Simons and Gaher for the domains of this questionnaire ranged from 0.70 to 0.82 (alpha coefficients for the subdomains were 0.772, 0.382, 0.781, and 0.730, respectively) and 0.82 was reported for the whole scale, showing good validity and reliability.[35] The cut-off point for the distress tolerance scale score is less than 28. A score above this indicates a high degree of distress. The questionnaire was scored on a 5-point Likert scale ranging from complete agreement to complete disagreement. This scale was used in a study which was carried out on 48 students of Mashhad Medical University and Ferdowsi University (17 males, 31 females) by Alavi et al in 2011 and its internal reliability was calculated by Cronbach's alpha coefficient. The results of this study showed high homogeneity and reliability (0.71).[38] The reliability of the questionnaire was confirmed by Cronbach's alpha coefficient of 0.882 .

Methods

In this quasi-experimental study, after the pre-test (T1), the subjects in the experimental group (group I and group II) received interventions including ACT (X1) and quality of life skills (X2), while the control group (group III) did not receive any intervention (-). At the end of the experiment, the subjects were reassessed in both experimental (first and second groups) and control (third groups) (T2). The process of conducting the research is shown in Table 1.

Implementation Method

After selecting the participants and randomly dividing them into three groups, the experimental groups attended 10 treatment sessions on each of the research variables. The first experimental group received intervention based on ACT and the second experimental group received QOLT.[33,39]

The sessions were held once a week. The content of each session including topics and assignments have been summarized in Table 2 and 3.

Table 1. Research Methodology

Interventions	Pre-test	Independent Variable	Post-test
ACT	T1	X1	T2
QOLT	T1	X2	T1
Control	T1	-	T2
Control	T1	-	T2

ACT: Acceptance and Commitment Therapy, QOLT: Quality of Life Therapy

Table 2. Acceptance and Commitment Therapy Sessions

Sessions	Topics
1	Cognitive-emotional self-awareness skills
2	Emotion management skills
3	Cognitive fusion, Thanksgiving
4	Managing negative mood, cognitive error management
5	Acceptance skills (unconditional self-reliance and other interpersonal relationships)
6	Understanding the concept of present-day communication, identifying and refining values
7	Self-Observation Skill
8	Anger control skills (refining values)
9	Dealing with commitment, personal problem-solving skills
10	Review and summary

Table 3. Quality of Life Improvement Training sessions

Sessions	Topics
1	Communicating with participants, introducing quality of life therapy
2	Explaining the concept of quality of life, introducing the 16 dimensions of quality of life
3	Introducing the CASIO technique and expressing its 5 strategies
4	Explaining the first strategy (C) and its application in quality of life, self-esteem skills
5	Explaining the second strategy (A) and its application in quality of life, mindfulness skills
6	Explaining the third strategy (S) and its application in quality of life, cognitive emotion regulation skills
7	Explaining the fourth strategy (I) and its application in quality of life, effective communication skills
8	Explaining the fifth strategy (O) and its application in quality of life, empathy skills
9	Summary of the content mentioned in the previous sessions, summarizing the CASIO technique
10	Reviewing concepts, questions and answers, modifying techniques and skills

CASIO: Circumstances, Attitudes, Standards, Importance, Overall

Results

The demographic data of the participants and descriptive statistics of the variables are presented in Tables 4 and 5. The results showed that both of the treatment groups were different from the control group ($P<0.01$) in both distress tolerance and self-destructive behaviors. However, there was no significant difference between the two experimental groups ($P<0.05$).

Discussion

The findings of the present study suggest that training skills based on the improvement of quality of life and acceptance and commitment treatment increased distress tolerance and reduced self-destructive behaviors in substance abusers. This result is consistent with the results of the research by Popenhagen & Qualley et al,[40] Turner et al,[41] Mitchell et al,[42] Seid et al,[43] De Leon et al,[44] Frisch et al,[45] O'Brien et al,[46] Kajbaf et al,[47] Lanza et al,[48] and Luoma et al.[49] These studies show that QOLT and ACT have significant effects on cognitive emotion regulation, depression, anxiety, stress and anxiety, stressors, sexual self-efficacy, substance use, youth quality of life, self-esteem, substance abuse, and self-destructive behaviors. Based on the results of the present study and the positive effect of the interventions in substance abusers, it can be concluded that the life skills training based on ACT improved emotion regulation and distress tolerance. Emotion regulation and distress tolerance in these therapeutic interventions lead to the control of self-destructive behaviors and self-harm.[37] On the other hand, by training cognitive and behavioral techniques in these two therapies, it is possible to reduce negative emotions and increase the effort to calm and relieve distress. By recognizing one's own emotions, one strives to manage emotions and tolerate turbulence.[48] In other words, people experience discomforts and acquire skills to overcome them by ACT and QOLT. By these treatments, substance abusers who have constant disruptions in emotions are equipped with tools to deal with problems in order to improve their quality of life.[49] That is to say, prior to the onset of emotions, disturbances, self-destructive behaviors, irrational cognitions, and self-addicts, the addict would find himself filled with contradictory emotions. That sometimes led to the exacerbation of these emotions and self-destructive behaviors. However, these therapeutic interventions can help them to regulate their emotions by learning cognitive and behavioral strategies and guidelines. In addition, during the meetings, they become more familiar with their emotions by modeling other participants, and such awareness can be very helpful in cognitive regulation of their emotions.

Moreover, by teaching acceptance and commitment-based techniques and skills to improve quality of life, persons with a history of addiction learn to manage the distress and self-destructive behaviors in healthy ways and to control their responses and behaviors. For example, the individual learns that not all situations may be favorable, but rather a situation can impose a negative and unpleasant emotional burden. Therefore, they should learn how to simply accept the situation. This acceptance, which is taught through cognitive behavioral therapies, can alleviate anxiety and consequently reduce the suffering caused by emotional distress.

Conclusion

Finally, it can be said that ACT and QOLT can be effective in increasing distress tolerance and reducing self-destructive behaviors in people with patterned substance abuse. It is recommended that ACT and QOLT in addition to other therapeutic strategies should be used in treatment centers for addicts.

Table 4. Descriptive Statistics of Studied Variables by Groups and Types of Therapy

Variables	Statistics	N=45 (%)
Age (years)	Mean	29.91
	Standard deviation	6.065
Marital status	Single	35.5%
	Married	37.8%
	Divorced	26.7%
Education status	Lower than diploma	33.3%
	Diploma	40%
	Higher than diploma	15.6%
	Bachelor's degree or higher	11.10%

Table 5. Descriptive Statistics of Studied Variables by Groups and Types of Therapy

Interventional Group	DTS Mean ±SD		*P* Value	ONS Mean ±SD		*P* Value
	Pre-test	Post-test		Pre-test	Post-test	
ACT	82.33±37.932	106.13±35.667	0.003	21.47±6.479	13.13±7.909	0.016
QOLT	75.93±32.504	110.80±29.692	0.001	19.00±7.512	11.93±3.348	0.027
None	90.47±30.484	81.00±26.406	0.025	22.07±6.364	22.80±4.313	0.002
P-value	Ns	0.001		Ns	0.001	

ACT: Acceptance and Commitment Therapy, QOLT: Quality of Life Therapy, DTS: Distress Tolerance Questionnaire, ONS: Self-destruction Questionnaire, Ns, non-significant

Conflict of Interest Disclosure

The authors declare that they have no competing financial, professional, or personal interests that might have influenced the performance or presentation of the study described in this manuscript.

Ethical Approval

This article is a result of a PhD thesis in the field of Psychology approved by the Islamic Azad University, Neyshabur Branch. Moreover, it was approved by the Ethics Committee of the University (IR.IAU.NEISHABUR.REC.1398.003).

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