



The Effect of Acceptance and Commitment Therapy on the Psychological Flexibility of Substance-Dependent Women

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Abstract

Background: Addiction as one of the crises in the current century has affected all societies and is one of the most harmful and common phenomena in the family system. Addiction is the cause of many social, familial, and personal disabilities.

Objectives: The present study was conducted to investigate the effectiveness of acceptance and commitment therapy on the psychological flexibility of drug-dependent women.

Methods: A quasi-experimental study was conducted with a pretest-posttest design and a control group. The statistical population included female drug addicts attending addiction treatment camps in Zahedan, who had undergone detoxification. Using a single stage cluster sampling method, 27 drug-dependent women were selected and allocated randomly in either experimental (13 subjects) or control (n = 14) groups. The Dennis cognitive flexibility inventory (CFI) was used in the pre-test and post-test and the data were analyzed using multivariate covariance analysis in the SPSS version 23 software.

Results: The results of the study showed that acceptance and commitment therapy increased psychological flexibility and its dimensions (alternatives, control, and perceived ability) in the experimental group when compared to the control group at the post-test stage ($P < 0.05$).

Conclusions: Group-based acceptance and commitment treatment is effective in increasing the psychological flexibility of drug-dependent women. This method can be effective in reducing the psychological problems of addicts and decrease their tendency to return to substance use. Therefore, the use of this therapeutic approach is recommended to improve the health status of addicted women.

Keywords: Acceptance and Commitment Therapy, Psychological Flexibility, Women's Addiction

1. Background

Addiction is one of the crises in the current century that has affected all societies (1). Drug addiction is one of the most harmful and common phenomena in the family system, as well (2). It is the cause of many social, familial, and personal disabilities. The increasing proliferation of addiction and addiction to new substances threaten the family and the community and have psychological, moral, and social influences such as creating stress in family roles, tramping, begging, abusive behaviors, and in acute cases, especially in addicted women, sexual deviations and prostitution (3). The United Nations Office on Drugs and Crime stated in a recent report that Iran has the largest number of drug addicts in the world. The number of drug addicts grows more than three times the population each year (4). Current statistics on the status of women's addiction in the society are incomplete, contradictory, and unreliable.

Women's drug addiction appears to be increasing rapidly. Available statistics indicate that women account for 9% of drug users in the community, and women's dependence on substances had been quoted on average over the past decade (5).

One of the factors contributing to the greater adaptation of man to the needs and threats of life that is closely related to mental health is psychological flexibility. Flexibility is a process of one's ability to face emotional, social, and physical challenges. Compensation for damages gives a person more power to face life's difficulties (6). Cognitive flexibility is the ability of individuals to modify the process of knowing to face new and unpredictable situations (7). Cognitive flexibility has a positive effect on the individual's ability to cope with internal and external stresses. It also has positive effects on the well-being and comfort of individuals in the family's interactive environment and

plays a key role in the formation and development of various abilities in individuals (8). Individuals with cognitive flexibility can evaluate new problems and situations at different levels and provide alternative ideas (9) that increase the tolerance of conflicts in them (8). People with less flexibility can hardly forget their initial learning; they insist on their previous learning, which has negative consequences for them and decreases their compatibility with new conditions (10). The results of Folkman and Lazarus research (11) indicate that those with higher cognitive flexibility can better act in estradiometric situations and can be flexible if they cannot change the source of stress. Acceptance and commitment therapy is one of the treatments from the third wave of behavioral therapy that was introduced by Hayes et al. From the 1980s, which is rooted in a profound philosophy that is called pragmatism and is theoretically based on the theory of the relationship framework which defines how to create suffering by the human mind and the ways to deal with it, as well as alternative approaches to these domains (12). The goal of treatment is to accept and commit, reduce, adjust or eliminate emotional problems, and reduce the emotional, cognitive, physical, and behavioral symptoms of the problem. It ultimately leads to an increase in well-being and better life performance for individuals (13, 14). Acceptance and commitment therapy consists of six main processes, namely acceptance, cognitive defusion, contact with the current moment, self as context, values, and committed action for psychological flexibility (15).

Recent research on the acceptance and commitment treatment as the third wave of behavioral therapy has provided satisfactory results and rational reasons for using this treatment in clinical and non-clinical work (16). This treatment has been helpful in reducing chronic pain (17), self-sickness, and reducing the harmful behaviors of addicts (18). In another study, the acceptance and commitment therapy was effective in reducing the mental health of amphetamines due to its common components (19).

2. Objectives

In spite of various research in order to investigate the effectiveness of acceptance and commitment therapy in psychological flexibility, there is no specific study to assess the efficacy of this treatment on the psychological flexibility of substance-dependent women. In addition, given the importance of women's role in society and the family, it is important to identify a treatment that can improve their livelihoods by influencing them. Therefore, the present study was conducted to investigate the effectiveness of acceptance and commitment therapy in the psychological flexibility of drug-dependent women.

3. Methods

3.1. Research Setting and Patients

This quasi-experimental research utilized a pre-test and post-test design with a control group. The statistical population included all women with drug abuse attending drug addiction camps in Zahedan undergoing detoxification who were selected randomly using a convenience sampling method. The total member of addicted women in the camps was 29 persons. According to Morgan table, 27 individuals were selected randomly in a one-step cluster sampling (one of the women's addiction camps in Zahedan city was selected randomly). The participants were randomly divided into two experimental ($n = 13$) and control ($n = 14$) groups. In the first measurement, a pre-test was performed on both groups, and then the experimental group was subjected to the intervention. In the end, the post-test stage was performed. There were eight sessions of acceptance and commitment therapy intervention for the experimental group. The purpose of the sessions was to enhance the psychological flexibility, and the sessions were conducted in the form of group discussion and question answering. At the end of each session, homework was presented and at the beginning of the next session, the assignments and discussions of the previous session were reviewed. The content of the sessions is presented in Table 1. The criteria for entering the study were providing informed consent to participate in the research, at least elementary education, passing the course of detoxification, and attending the courses of residential care centers. The exclusion criteria were withdrawal or inability to attend treatment sessions. The study started from 12 April 2017 until 20 July 2017. Data were collected for three months.

3.2. Questionnaire

Cognitive Flexibility Inventory (CFI): This questionnaire was developed by Dennis and VanderWal (2010). The short-form of this self-report tool contains 20 questions and it is used to measure the type of psychological flexibility that is necessary for the individual's success in challenging and replacing inefficient thoughts with thoughtfulness. The method of rating is based on a seven-point Likert scale from one to seven that attempts to measure three aspects of cognitive flexibility, namely the tendency to perceive difficult situations as controllable, the ability to perceive several alternative justifications for life events and human behavior, and the ability to create multiple alternative solutions for difficult situations. The total score varies between 20 and 140. A higher score indicates a higher level of psychological flexibility. Dennis and VanderWal (2010) showed that this questionnaire has convergent validity and concurrent validity with a factor structure. In

Table 1. A Summary of the Structure and Content of Treatment Sessions Based on the Acceptance and Commitment Protocol

Session	Content
First session	Familiarity and communicating with members of the group, determining the rules governing the treatment sessions, clarifying the therapeutic relationship and the two mountains metaphor, introducing creative helplessness, and pre-test implementation.
Second session	Reviewing the response to the previous session, discussing experiences and evaluating them, creating creative frustration, the well-meaning metaphor and gobberling, and giving homework
Third session	Reviewing the assignment and responses to the previous session, introducing the inner world and the outer world and the rules governing them, expressing control as a problem, the polygraph metaphor, and giving an assignment
Fourth session	Reviewing the assignment and responses to the previous session, introducing clean and impure feelings, introducing the tendency as an alternative to control, the guest metaphor, introduction of acceptance, and giving an assignment
Fifth meeting	Reviewing the assignment and responses to the previous session, introducing values, introducing the difference between value and purpose, exercising the assessment of values and determining values, the funeral metaphor, giving an assignment
Sixth session	Reviewing the assignment and responses to the previous session, understanding the nature of commitment and desire, determining the appropriate model with values, being familiarized with the characteristics of the language that blends, practice milk tap.
Seventh session	Reviewing the assignment and responses to the previous session, introducing faults, practicing floating leaves on the water, teaching and practicing mind-awareness, and giving homework
Eighth session	Reviewing the assignment and responses to the previous session, introducing yourself as a field, the planting metaphor, treatment summary, engaging members in homework after the end of the course, and post-test implementation

Iran, Soltani et al. (2013) found that the reliability coefficient of the total scale was 71%, and the coefficients of the subscales of perceived difficult situations as controllable, creating multiple alternative solutions, and perceived alternative justifications were 0.55, 0.72, and 0.77, respectively. The researchers calculated the Cronbach's alpha coefficient for the whole scale as 0.91 and for the subscales as 0.89, 0.87, and 0.55, respectively. In this study, the Cronbach's alpha coefficient was 0.85.

3.3. Meeting Topic

The first session included familiarity and communication with the members of the group, determination of the rules governing the treatment sessions, clarification of therapeutic relationship and the two mountains metaphor, introduction to creative helplessness, and pre-test implementation. The second session included reviewing the responses to the previous session, discussing experiences and evaluating them, creating creative frustration, the well-meaning metaphor, goblin rotation, and giving an assignment. The third session included reviewing the assignment and responses to the previous session, introduction of the inner world and the outer world and the rules governing them, expression of control as a problem, the polygraph metaphor, and giving an assignment. The fourth session included the review of the assignment and responses to the previous session, the introduction of clean and impure feelings, the introduction of desire as an alternative to control, the guest metaphor, introduction of acceptance, and giving homework.

The fifth session included reviewing the assignment and responses to the previous session, introducing values,

introducing the difference between value and purpose, exercising the measurement of values and determining values, the funeral metaphor, and giving an assignment. The sixth session included the review of the assignment and responses to the previous session, understanding the nature of commitment and desire, determining the appropriate pattern with values, familiarity with the features of the language that blends, and practice milk. The seventh session included reviewing the assignment and responses to the previous session, introducing faults, practicing floating leaves on the water, teaching and practicing the mind-awareness method, and giving homework.

The eighth session included reviewing the assignment and responses to the previous session, introducing yourself as a field, the seedling metaphor, treatment summary, engaging members in homework after the end of the course, and post-test implementation.

3.4. Statistical Analyses

The data were analyzed by the SPSS version 23 software using descriptive statistics (mean and standard deviation) and inferential statistics including multivariate covariance analysis.

All subjects expressed their consent to participate in the study. The study was approved by the University of Sistan and Baluchestan.

4. Results

The total number of patients was 30. Table 2 describes the age groups of the addicted women. The mean age was

29.74 years with an SD of 14.95 with a 95% confidence interval. The mean and standard deviation of the research variables and their subscales are presented in Table 3 for each group.

Table 2. The Frequency and Percentage of Age Groups in Addicted Women

Age/Group	Frequency	Percent
21 - 28 years old		
Experimental	6	85.42
Control	7	84.53
29 - 36 years old		
Experimental	5	71.35
Control	5	46.38
37 - 44 years old		
Experimental	3	42.21
Control	1	69.7
Total		
Experimental	14	100
Control	13	100

The results showed that the mean scores of psychological flexibility and its subscales (alternatives, control and perceived ability) in the experimental group increased in the pre-test and post-test stage. The control component in the pre-test (35.85) and post-test (35.92) in the experimental group was more than the other components (Table 3).

The multivariate analysis of covariance was used to determine the effect of acceptance and commitment therapy on psychological flexibility and its dimensions. The results of the Kolmogorov-Smirnov test and the Levin test confirmed the normal distribution of scores and equality of variances, respectively. The significance levels of all tests indicated that acceptance and commitment therapy was effective in at least one of the dependent variables (the components of psychological flexibility) (Table 4). The mean scores increased in the experimental group more than in the control group in the post-test phase ($P = 0.05$, $F = 6.7$) (Table 5).

After removing the effect of pre-test on the dependent variables and considering the coefficient F obtained in the subscales of substitutes ($F = 0.75$, $P < 0.05$), control ($F = 0.06$, $P < 0.05$), and perceived ability ($F = 0.44$, $P < 0.05$), there was a statistically significant difference between the two groups in the moderated mean scores of participants in the two stages of pre-test and post-test. Therefore, the research hypothesis is confirmed and it can be concluded that in the experimental group, there was a significant change in the variables of the alternatives, control, and perceived ability in the post-test compared to the control

group due to the intervention. Based on the ITA coefficients, the highest effect was on the subscale of the substitutes, with the effect and difference of 0.24 accounting for 24% of the difference in post-test scores (Table 5).

5. Discussion

The purpose of this study was to evaluate the effectiveness of acceptance and commitment therapy in the psychological flexibility of drug-addicted women. The results of the study showed that the mean flexibility scores of the subjects in the experimental group showed a significant increase compared to the control group from the pre-test to post-test. This result suggests acceptance and commitment therapy in the group form is a way to improve psychological flexibility. The findings of the present study are in line with the results of previous research (20-25). The results showed that acceptance and commitment therapy had an impact on psychological flexibility. To explain this finding, it can be argued that the success of treatment based on acceptance and commitment in a variety of clinical disorders and groups of people is due to that this approach does not seek to change the content of thought (26), but it is a behavioral therapy which embraces beliefs against challenges to them by focusing on mindfulness, cognitive faults, description of thoughts and feelings without meaning to them, value-based life, personal spirituality, and more flexible ways of responding to an intrusive stimulus (27). This method of treatment helps the authorities to achieve a more valuable and satisfying life through increased psychological flexibility rather than focusing solely on cognitive rehabilitation. Adoption-based treatment and commitment lead to psychological flexibility (28). In this approach, psychological flexibility increases the ability of clients to connect with their experiences in the present moment based on what is possible for them at that moment and in a manner that is in line with values selected (26). Communication with the current moment is a process through which clients learn to focus on their present emotions instead of constantly living in the past and future. Recent experience helps the clients to experience changes in the world as they are, rather than the mind (29). Researchers believe that the use of treatment methods such as acceptance and commitment therapy due to its mechanisms, such as acceptance, increased awareness, living at the moment, observation without judgment and bewareing of avoidance, can be effective in the treatment of addiction. Therefore, increasing psychological flexibility in the acceptance and commitment therapy can increase the ability of patients in coping with the temptation and trace symptoms as the main indicators of continued consumption in these patients.

Table 3. Descriptive Indices of Psychological Flexibility and its Sub-Scales

Variables/Group	Number	Pre-test (Mean ± SD)	Post-test (Mean ± SD)
Alternatives			
Experimental	13	23.62 ± 6.5	34.15 ± 6.99
Control	14	22.36 ± 6.07	22.29 ± 6.03
Control			
Experimental	13	35.85 ± 6.84	35.92 ± 8.71
Control	14	31.00 ± 4.99	29.64 ± 4.75
Ability to understand			
Experimental	13	4.23 ± 1.57	8.15 ± 2.26
Control	14	6.00 ± 1.30	6.50 ± 1.55
Psychological flexibility			
Experimental	13	69.63 ± 7.68	78.23 ± 9.26
Control	14	63.36 ± 7.50	63.43 ± 7.70

Table 4. A Summary of Multivariate Covariance Analysis

Test	Value	F	Degree of Freedom of Hypothesis	Degree of Freedom of Error	Meaningful	Squat Trough
Wilks lambda	0.53	6.72	3	23	0.002	0.46

Table 5. Multivariate Covariance Analysis Results in MANCOVA

Group/Dependent Variable	Total Squabbles	df	Average Squares	F	Meaningful	Squat Trough
Alternatives	317.96	1	317.96	7.99	0.009	0.24
Control	256.86	1	265.86	7.07	0.021	0.19
Ability to understand	18.43	1	18.43	4.94	0.035	0.16

In this regard, an overview of the literature shows that acceptance and commitment therapy is effective in life satisfaction, depression, and psychological flexibility of people with chronic pain (20, 21). The findings of this study are consistent with those of studies that show acceptance and commitment therapy are effective in reducing the difficulty of adjusting excitement, psychological flexibility, and emotional avoidance and reducing anxiety. In this regard, studies have shown that acceptance strategies can yield satisfaction and improve life quality and psychological flexibility in people with chronic pain (22, 23).

Along with this evidence, increasing the level of psychological flexibility is a theoretical and research goal of a sustained acceptance and commitment therapy (25, 27).

5.1. Conclusions

The study provides a way to improve the health status of addicted women. In addition, adoptive and group-based treatment is effective in increasing the psychological flexibility of drug-dependent women, and this method can be effective in reducing the psychological problems

of addiction and can prevent them from returning to substance abuse. Therefore, using this therapeutic approach is recommended to improve the health status of addicted women. Among the limitations of this research, it can be stated that the statistical population of this study was formed of only women who referred to addiction treatment clinics in Zahedan. Therefore, the generalization of the results of this study to other communities should be done with caution. The other limitation was the lack of a follow-up period; so, the inference of the sustainability of the treatment effect should be done with caution. It is suggested that the effectiveness of this method be examined in other societies and compared with other therapeutic methods in future research.

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Footnotes

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Ethical Considerations: All subjects expressed their consent to participate in the study. The study was approved by the University of Sistan and Baluchestan.

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