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Research Article

Effectiveness of Cognitive-behavioral Group Therapy and Acceptance and Commitment Group Therapy in Mental, Spiritual, and Social Health of Addicts

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Abstract

Background: The mental health of addicts and the selection of appropriate treatment methods are essential. Given the role of spirituality and social health of addicts in relapse prevention and treatment, this study aimed to assess cognitive-behavioral group therapy (CBT) and acceptance and commitment therapy (ACT) in the mental, spiritual, and social health of addicted people.

Methods: This interventional study utilized a pretest-posttest design with a control group. Addicts referred to the health centers of Birjand were selected in 2018-2019 through a convenience sampling method. According to the study's objectives, eligible individuals were randomly divided into three groups of 32 people. The Social Well-being Questionnaire of Keyes, the Spiritual Health Questionnaire of Alison and Palowtzin, and the General Health Questionnaire of Goldberg were used in the study. Cognitive-behavioral group therapy and acceptance and commitment therapy were held in 12 60-minute sessions based on treatment protocols. After one month, the questionnaires were completed again. The chi-square test, paired t-test, and analysis of variance were used to analyze the data at a significance level of less than 0.05.

Results: The three groups were similar in age, occupation, and education level. The mean scores of religious and existential health were significantly higher in the ACT group than in the control group after the intervention. Also, the paired t-test showed that the mean score of religious and existential health in the ACT group and the mean score of religious health in the CBT group significantly increased after the intervention compared to before ($P < 0.001$). Also, the mean scores of social actualization, social solidarity, social cohesion, social acceptance, and social participation were significantly higher in the ACT group than in the control group after the intervention. The paired t-test showed that the mean scores of social actualization, solidarity, cohesion, and participation in the ACT group and the mean scores of social acceptance and cohesion in the CBT group significantly increased after the intervention compared to before. After the intervention, the mean scores of physical health, low anxiety, non-dysfunction, and low depression were significantly higher in the ACT and CBT groups than in the control group ($P < 0.001$).

Conclusions: Both ACT and CBT are influential in the mental, spiritual, and social health of addicts. Nevertheless, ACT has a more significant impact on the mental, spiritual, and social health of addicts.

Keywords: Effectiveness; Cognitive-Behavioral Group Therapy; Acceptance and Commitment Group Therapy; Mental Health; Spiritual Health Social Health; Addicts

1. Background

Chronic substance abuse can lead to physical dependence, and people require higher doses of the drug to achieve similar effects. Chronic abuse also can cause permanent molecular and structural adaptation in brain circuits and lead to compulsive behavior after drug use (1). Addiction is one of the most critical public health challenges identified by the US Centers for Disease Control and Prevention. In addition, synthetic drugs can cause many disorders, and their use is constantly increasing (2).

The devastating epidemic of opioid addiction affects both economies and human life (3). Moreover, social factors play a crucial role in the incidence and permanence of addiction (4). Social factors affect health outcomes (5), including social health. Social health is the ability to perform social roles

effectively and efficiently and evaluates people's performance in society and the quality of their relationships with other individuals and groups (6). If social participation decreases, it leads to feelings of powerlessness and meaninglessness, and a sense of powerlessness is one of the forms of social alienation, intending a person to addiction. People who do not feel citizenship and have little social motivation will not be actively involved in social affairs. In such a society, the feeling of interpersonal discrimination should be reduced to increase the interaction between addicts and other classes of society. Besides, addicted people should feel more belonging to the community they live in and can acquire a true identity for themselves and leave their addiction subculture. Social health is also an essential factor in accepting social norms and causes a person to avoid undesirable reactions and to face them and outperform in society when faced with challenges in social life (5). Some researchers concluded that social health dimensions, such as social cohesion and social participation, are related to addiction and substance abuse (7-9).

The social health of individuals is related to their spiritual beliefs in society (10). Due to its consequences and functions at the individual and social levels, spiritual health has always been one of the most determining factors in the formation of human societies and plays a vital role in human social life (11) and addiction prevention. It is one of the factors preventing the occurrence of addiction and is a shield against drug addiction (12).

Wills et al. showed that religiosity reduces the pressure of life on the tendency to use drugs and inhibits substance abuse over time. Moreover, religion is inversely related to drug use (13). In addition, religious beliefs effectively prevent drug addiction, and spiritual prevention and treatment programs can effectively prevent substance abuse (14, 15). In addition, a study found that 71% of undergraduate students of different religions acknowledged that religion played an important role in alcohol abuse and sexual activity (16).

Meanwhile, the results show that cognitive-behavioral therapy (CBT) helps increase spiritual health (17). Spirituality can influence how people interpret the critical life events and the meaning of their attachment to those events, and CBT seems to have a consistent approach to dealing with spiritual issues by focusing on beliefs (18). Besides, CBT reduces substance-related beliefs in addicts by replacing healthier beliefs and spirituality by creating hope and peace. Regarding the areas of overlap between CBT and spirituality, Beck states that many negative thoughts and feelings are self-centered and lead to dissatisfaction. People get caught up in these feelings. However, when people learn to look at life from a more holistic perspective and feel part of a larger human structure, their pain, discomfort, and conflict are more easily managed (18).

Acceptance and commitment therapy (ACT) also encourages clients to change their relationships with thoughts and other inner experiences. Besides, acceptance of internal events when one is not struggling with his anxieties and confusion allows him to develop his behavioral treasury and can use the time he earns to do his worthwhile activities and commit himself to a worthwhile and meaningful life; also, the spiritual dimension of life will be improved (19). Spirituality is an essential factor in people's lives. It, therefore, has a significant effect on physical and mental health (18).

One study showed that high mental health is associated with a reduced risk of addiction (12). In addition, CBT effectively reduces psychological distress, negative emotions, and negative thoughts. Also, CBGT, in particular, is effective in improving mental health because people learn to turn negative automatic thoughts into positive thoughts. During CBGT, people tend to discover unpleasant events, negative thoughts, and behaviors. The process of cognitive reconstruction takes place through CBGT, and the groups address negative thoughts shared by several members and try to change negative thoughts and behaviors into positive ones. Moreover, CBT seems to be effective not only in treating mental health problems but also in promoting the actualization of mental health (20). A study showed that ACT was an effective treatment for mental health (21). Also, ACT is a therapeutic approach that uses acceptance and commitment processes and behavioral change processes to create mental health (22).

The number of people seeking treatment for opioid addiction increased from 1997 to 2011 (2). One of these therapies is CBT. This treatment can be used for substance abuse disorders as a structural method to help people reduce substance abuse by changing their thoughts and behaviors. CBT is usually a set of structural techniques such as motivational enhancement, relapse prevention, skills training, cognitive restructuring, stress management, and emotional control (23). A study in Japan showed that CBT reduced the cravings and conditions that increase the risk of relapse in the intervention group and improved self-efficacy. Physical complaints also decreased in the intervention group; 70% of the intervention group members expressed satisfaction, and 50% said this program was helpful. This study showed that CBT is effective in relapse prevention (24).

CBT for substance use disorder is based on the assumption that drug abuse is a learned behavior and emphasizes learning adaptive behaviors and ways of thinking. The degree of dependence can be reduced in CBT by controlling dysfunctional thoughts and managing behavior (23). This approach can continue to treat people who are abstaining by developing motivation, increasing coping skills to manage risky situations, modifying dependence on enhancers, managing emotional responses, and promoting social activism (25).

Another treatment that can be used for addiction treatment is ACT. It is used as a mindfulness intervention to

help people improve their lives by using awareness, acceptance, and being in the moment instead of arguing and avoiding internal experiences such as thoughts, memories, and feelings. ACT has two primary purposes: acceptance of uncontrollable problematic internal experiences and commitment and action based on individual values. The ACT includes acceptance, recognition of knowledge, clarification of personal values, action based on values, and commitment (26). Azkhosh et al. (26) showed that acceptance improved significantly in the ACT group. The ACT can also help improve the mental health and resilience of addicts, and group therapy is affordable psychotherapy that can be used for substance abusers and their families (26).

The concept of CBT is the acceptance and commitment that sufferings and psychological reflections are created by avoiding experiences, intertwined cognitions, and failing to meet behavioral needs (22). Acceptance and commitment through a combination of vitality and clear seeing of their experiences can positively change adjustment and well-being. Because they help balance negative behavioral patterns and automatic thoughts, they lead to the regulation of positive health-related behaviors (27).

2. Objectives

Therefore, according to the high prevalence of addiction and the resulting socio-health problems, we need prevention and treatment methods with principled and extensive planning. This study was conducted to investigate the effectiveness of CBGT and ACGT in the mental, spiritual, and social health of addicts.

3. Methods

This interventional study utilized a pretest-posttest design with a control group. Addicts referred to health centers located in Birjand, Iran, were selected in 2018-19. Subjects were selected through a convenience sampling method. According to the study's objectives, eligible individuals were randomly divided into three groups of 32 people.

A permit was obtained from Birjand University of Medical Sciences. People with substance abuse, those who wanted to quit drugs, and those who had informed consent about the project were included in the study. Also, the necessary coordination was done with the health center for the training place, and training classes were held in the center. This study performed CBGT on 32 people based on treatment protocol in 12 60-minute sessions. ACGT was performed on 32 people in 12 60-minute sessions based on the treatment protocol. The control group included 32 people who received no training.

Questionnaires were distributed in the CBT and ACT groups in the first session without receiving any training. In the last session, the questionnaires were re-distributed after the training was performed in each group. The control group received the same questionnaires again in the first and last sessions without any training. Analysis of covariance at P = 0.05 was used for inferential statistics. The questionnaires used in this study are as follows.

3.1. Social Well-being Questionnaire of Keyes

The Social Well-Being Questionnaire of Keyes has 20 questions and aims to assess the level of health (social actualization, social cohesion, social acceptance, social participation, and social solidarity). A five-point Likert scale is used in this questionnaire (strongly disagree = 1, disagree = 2, no idea = 3, agree = 4, and strongly agree = 5). This scoring is reversed for questions 3, 5, 6, 7, 13, 14, 15, 16, 17, 18, 19, and 20 (strongly disagree = 5, disagree = 4, no idea = 3, agree = 2, and strongly agree = 1).

Questions 1 - 4 are for social actualization, 5 - 6 for social solidarity, 8 - 10 for social cohesion, 11 - 15 for social acceptance, and 16 - 20 for social participation. The internal consistency to evaluate the reliability of this tool showed Cronbach's alpha of 0.78 for the whole scale and 0.74 for social participation, 0.74 for social acceptance, 0.71 for social solidarity, 0.70 for social actualization, and 0.77 for social cohesion, indicating that this tool had good reliability. The content validity of this tool has also been confirmed (28). In this study, this questionnaire's construct validity and reliability were confirmed. The reliability of this questionnaire was calculated to be 0.87 by Cronbach's alpha method (29).

3.2. Spiritual Health Questionnaire

The first 10 questions measure religious health in this scale, while the other 10 questions measure existential health. Phrases with odd numbers measure religious health, and phrases with even numbers measure existential health. The spiritual health score is the sum of these two subscales, the range of which is between 20 and 120. The answers to these questions were scored on a six-point Likert scale from strongly disagree to strongly agree. Strongly agree received a score of six, and strongly disagree received a score of one. In questions 3, 4, 7, 8, 10, 11, 14, 15, 17, 19, and 20, strongly disagree received a score of one, and in questions 1, 2, 5, 6, 9, 12, 13, 16, and 18, strongly disagree received a score of 6. This questionnaire was first administered to 283 nursing students by Abbasi in Iran in 2005. An R-value of 0.82 was reported for this questionnaire. The validity of the spiritual health questionnaire after translation into Persian was confirmed through content validity. Its reliability in this study was determined to be 88% by Cronbach's alpha reliability coefficient (30).

3.3. General Health Questionnaire

The General Health Questionnaire was first developed by Goldberg (1979). This questionnaire has 28 questions. It has four subscales: physical symptoms, anxiety and insom-

nia, social dysfunction, and depression. The total score is obtained from the sum of scores. Questions 1 to 7 are related to physical symptoms, questions 8 to 14 to anxiety and insomnia, questions 15 to 21 to social dysfunction, and questions 22 to 28 to the depression subtest. The scoring system is based on the Likert method. Each answer from right to left receives never = 0, usual = 1, too usual = 2, and far more than usual = 3. The minimum score obtained by each person is zero, and the maximum is 84. A lower score on this questionnaire indicates better mental health. In Iran, Reliability of this scale in the Previous study for female students was obtained at 0.83 and 0.84 and for male students at 0.85 and 0.86, respectively, using Cronbach's alpha method and bisection (31). Fathi et al. obtained the reliability coefficients of this questionnaire using Cronbach's alpha method and halving as 0.60 and 0.57, respectively, for the whole scale (31).

3.4. Cognitive-behavioral Group Therapy

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

Table 1. Cognitive-behavioral Group Therapy Sessions

First session	Introductory acquaintance among group members, defining group rules, identifying common problems among all, and completing pretests
Second session	Familiarity with the cognitive-behavioral model, explaining the relationship between thoughts, feelings, and behavior
Third session	Advantages and disadvantages of substance abuse, precedents, consequences, and positive and negative consequences
Fourth session	Reviewing the contents of the previous session, gaining the ability to abstain, overcoming anger, depression, etc., identifying the antecedents and consequences of substance-seeking behavior, place, time, person, or special feelings that motivate the person, examining thoughts before, during, and after consumption + worksheet
Fifth session	Coping with craving, accepting the craving, training to fight the craving
Sixth session	Refusal and assertiveness skills, teaching the skill of saying "no"
Seventh session	Communication skills training
Eighth session	Problem-solving skills
Ninth session	Anger control skills
Tenth session	Dealing with cognitive stimuli
Eleventh session	Dealing with depression and anxiety
Twelfth session	Planning for the future, re-completing the questionnaires by the group

3.5. Acceptance and Commitment Group Therapy

Acceptance and commitment group therapy (ACGT) was performed in 12 sessions of 60 minutes based on the treatment protocol (Table 2).

Table 2. Acceptance and Commitment Group Therapy Sessions

First session	Introductory acquaintance among group members, defining group rules, identifying common problems among all, and completing pretests
Second session	Introducing ACT, creating creative frustration, and efficiency as a benchmark
Third session	Expressing control as a problem, not as a solution, measuring performance, and previewing next week's practice
Fourth session	Reviewing the experiences of previous sessions, behavioral tasks, and commitment, introducing defusion, application of cognitive defusion techniques
Fifth session	A review of the observer's behavioral task and commitment, the separation between self, inner experiences, and behavior, self-observation as context, weakening of conceptual self, and self-expression
Sixth session	Conceptualized self-adhesion, performance appraisal, application of mindfulness technique, the contrast between experience and mind, modeling out of mind, learning to see inner experiences as a process
Seventh session	Measuring performance, introducing the concept of value, showing the dangers of focusing on results, and discovering the practical values of life
Eighth session	Defining values and goals, committed action of each person, understanding the nature of desire and commitment, determining patterns of action per values
Ninth session	Defining goals in the direction of values + homework + committed action
Tenth session	Acceptance for effective action, seeing the problem as an opportunity
Eleventh session	Behavioral commitment and adherence to it, examining the problems existing during the group therapy process
Twelfth session	Raising problems and having ACT tools in hand, re-completing the questionnaires by the group

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, and the chi-square test was used for qualitative variables. Also, a paired t-test was used to analyze the data. In all analyses, a significance level of less than 0.05 was considered.

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4. Results

In this study, 96 people in three groups of 32 were enrolled. The three groups were similar in age, occupation, and education level (Table 3). The mean age was 36.41 (6.99), 36.50 (6.98), and 36.91 (5.79) in the ACT, CBT, and control groups, respectively (P = 0.95).

Table 3. Basic Characteristics in Three Groups

Variables / Groups	ACT	CBT	Control	P-Value
Age, mean ± SD	36.41 ± 6.99	36.50 ± 6.98	36.91 ± 5.79	0.95
Education, No. (%)				0.87
Primary	13 (40.6)	16 (50.0)	13 (40.6)	
High school / no degree	11 (34.4)	10 (31.2)	13 (40.6)	
Diploma	8 (25)	6 (18.8)	6 (18.8)	
Job, No. (%)				0.93
Unemployed	7 (21.9)	9 (28.1)	9 (28.1)	
Manual worker	17 (53.1)	17 (53.1)	15 (46.9)	
Covered by supportive organizations	8 (25)	6 (18.8)	8 (25)	

After the intervention, the mean scores for religious and existential health were 48.40 ± 7.27 and 49.28 ± 10.01 in the ACT group, respectively. The analysis of variance showed that the mean scores of religious and existential health were significantly different between the three groups after the intervention (P < 0.001). Tukey's post hoc test results showed that the mean religious and existential health scores were significantly higher in the ACT group than in the control group after the intervention. Also, the paired t-test showed that the mean scores of religious and existential health significantly increased after the intervention compared to before the intervention in the ACT group (P < 0.001). In the CBT group, the mean scores of religious health significantly increased after the intervention compared to before the intervention (Table 4).

Table 4. Scores of Spiritual Health Dimensions (Religious and Existential) in ACT, CBT, and Control Groups Before and After the Intervention [a]

Variables	ACT	CBT	Control	Analysis of Variance Result
Religious health				
Before intervention	36.87 ± 6.17	35.37 ± 6.18	34.00 ± 3.25	0.08
After intervention	48.40 ± 7.27	39.59 ± 8.54	35.37 ± 6.18	0.001
Paired t-test result	0.32	0.01	0.001	
Existential health				
Before intervention	37.19 ± 4.75	37.06 ± 13.78	34.03 ± 4.12	0.01
After intervention	49.28 ± 10.01	38.97 ± 5.57	34.09 ± 4.03	0.001
Paired t-test result	0.32	0.44	0.001	

[a] Values are expressed as mean ± SD.

The mean scores of social actualization and solidarity were 17.27 ± 3.18 and 9.69 ± 1.65, respectively, in the ACT group after the intervention. The analysis of variance showed that the mean scores of social actualization, social solidarity, social cohesion, social acceptance, and social participation were significantly different between the three groups after the intervention (P < 0.05). Tukey's post hoc test showed that after the intervention, the mean scores of social actualization, social solidarity, social cohesion, social acceptance, and social participation were significantly higher in the ACT group than in the control group. Also, the paired t-test showed that in the ACT group, the scores of social actualization, social solidarity, social cohesion, and social participation significantly increased after the intervention compared to be-

fore. Also, the mean scores of social acceptance and social cohesion in the CBT group significantly increased after the intervention compared to before (Table 5).

Table 5. Scores of Social Health Dimensions in ACT, CBT, and Control Groups Before and After the Intervention [a]

Variables	ACT	CBT	Control	Analysis of Variance Result (P-Value)
Social actualization				
Before intervention	14.15 ± 2.14	10.78 ± 2.55	10.22 ± 4.04	0.03
After intervention	17.25 ± 3.18	11.72 ± 2.60	10.31 ± 4.00	0.001
Paired t-test result	0.001	0.17	0.18	
Social correlation	7.81 ± 1.37	8.62 ± 2.74	5.72 ± 2.55	0.001
Before intervention	9.69 ± 1.65	9.06 ± 2.10	6.00 ± 2.39	0.001
After intervention				
Paired t-test result	0.001	0.44	0.09	
Social solidarity				
Before intervention	9.65 ± 2.63	8.56 ± 2.69	7.44 ± 3.71	0.10
After intervention	12.69 ± 2.41	11.71 ± 1.98	7.65 ± 3.70	0.001
Paired t-test result	0.001	0.001	0.09	
Social acceptance				
Before intervention	16.15 ± 2.89	12.00 ± 12.91	5.72 ± 3.96	0.001
After intervention	16.28 ± 2.83	16.09 ± 13.12	6.00 ± 3.85	0.001
Paired t-test result	0.087	0.001	0.09	
social participation				
Before intervention	14.65 ± 2.81	11.72 ± 4.19	6.18 ± 4.16	
After intervention	16.90 ± 3.48	12.25 ± 2.27	6.50 ± 3.97	
Paired t-test result	0.005	0.44	0.07	

[a] Values are expressed as mean ± SD.

The mean scores of physical health and low anxiety were 16.37 ± 4.15 and 15.151 ± 4.77, respectively, in the ACT group after the intervention. The analysis of variance showed that the mean scores of physical health, low anxiety, dysfunction, and low depression were significantly different between the three groups after the intervention ($P < 0.05$). Tukey's post hoc test showed that after the intervention, the mean scores of physical health, low anxiety, dysfunction, and low depression were significantly higher in the ACT and CBT groups than in the control group ($P < 0.001$). The paired t-test also showed that the mean scores of physical health and low depression were significantly different in the CBT group before and after the intervention. Also, the mean scores of dysfunction and low anxiety in the ACT group significantly increased after the intervention compared to before ($P < 0.05$) (Table 6).

Table 6. Comparison of Mean Score of Mental Health Dimensions in ACT, CBT, and Control Groups Before and After the Intervention [a]

Variables	ACT Group	CBT Group	Control	Analysis of Variance Result (P-Value)
Physical health				
Before intervention	12.96 ± 4.96	10.31 ± 5.61	10.01 ± 3.27	0.06
After intervention	16.37 ± 4.15	13.68 ± 3.31	10.81 ± 3.22	0.001
Paired t-test result	0.06	0.004	0.032	
Low anxiety				
Before intervention	9.34 ± 6.32	9.43 ± 5.70	7.50 ± 3.60	0.08
After intervention	15.15 ± 4.77	12.47 ± 3.74	7.37 ± 3.52	0.001

Paired t-test result	0.03	0.08	0.16	
No dysfunction				
Before intervention	9.09 ± 4.46	12.53 ± 4.47	3.14 ± 5.78	0.001
After intervention	14.34 ± 4.49	12.12 ± 3.06	5.62 ± 3.01	0.001
Paired t-test result	0.001	0.64	0.09	
Low Depression				
Before intervention	14.28 ± 4.01	14.37 ± 6.79	7.62 ± 4.91	0.001
After intervention	14.34 ± 5.45	11.09 ± 3.75	7.37 ± 4.57	0.001
Paired t-test result	0.001	0.02	0.10	

[a] Values are expressed as mean ± SD.

The analysis of covariance after controlling for religious health, existential health, social actualization, social solidarity, social cohesion, social acceptance, social participation, physical health, anxiety, disorder, and depression before the intervention showed a significant difference in the scores of religious health, existential health, social solidarity, social cohesion, social acceptance, social participation, physical health, anxiety, disorder, and depression between the ACT, CBT, and control groups ($P < 0.05$) (Table 7).

Table 7. Univariate Analysis of Covariance to Compare Three Groups on the Dimensions of Spiritual, Social, and Mental Health a

Variables	Sum of Squares	Do F	F-statistics	Significance	Effect Size
Religious health	346.62	2	6.09	0.003	0.12
Existential health	354.47	2	8.25	0.001	0.15
Social actualization	21.22	2	1.65	0.19	0.03
Social correlation	109.41	2	16.23	< 0.001	0.25
Social cohesion	287.28	2	22.88	< 0.001	0.33
Social acceptance	180.38	2	9.16	< 0.001	0.17
Social participation	130.48	2	10.03	< 0.001	0.18
Physical health	258.33	2	8.91	< 0.001	0.16
Anxiety	673.19	2	20.55	< 0.001	0.31
Disorder	985.06	2	38.64	< 0.001	0.46
Depression	417.96	2	10.17	< 0.001	0.18

[a] Values are expressed as mean ± SD.

5. Discussion

The study aimed to evaluate the effectiveness of CBT and ACT on the mental, spiritual, and social health of 96 addicts referred to health centers in Birjand. The results showed that the mean spiritual health score significantly increased in the ACT and CBT groups after the intervention compared to before. In the control group, the mean score of religious health did not show a significant difference before and after the intervention. These results are inconsistent with previous results (32) but align with the results of Rezaei (17, 18, 32) because the goal of ACT is to help clients create a rich, perfect, and meaningful life (33).

The consequences and functions of spiritual health at the individual and social levels have always been one of the most decisive factors in shaping human societies and play an essential role in social life (11) and addiction prevention (12). It is one of the factors preventing addiction and is a shield against drug addiction (12). Wills et al. showed that religiosity reduced the pressure of life to tend to abuse drugs and inhibited the increase of substance use over time, and religion was inversely related to addictive drug use (13). In addition, religious beliefs effectively prevented drug addiction, and spiritual prevention and treatment programs could be effective in preventing substance abuse (14, 15).

The results also showed that CBT helped increase spiritual health (17). As spirituality could influence the way people interpret important life events and the meaning of their attachment to those events, the CBT, with a focus on beliefs, is a consistent approach to dealing with spiritual issues (18). The CBT reduces substance-related beliefs in addicts by replacing healthier beliefs and spirituality and creating hope and peace. It also encouraged the acceptance and commitment of clients to change their relationships with thoughts and other inner experiences. Besides, the acceptance of inner events when a person is not in conflict with his/her anxieties and distresses allows the development of his/her behavioral treasury, and

he/she can use the time he/she earns to do worthwhile activities and commit him/herself to a worthwhile and meaningful life. It also improves the spiritual dimension of life (19).

Another result of this study was that the mean scores of social actualization, social solidarity, and social participation in the ACT group significantly increased after the intervention compared to before. All the components mentioned in the CBT and control groups did not make significant differences before and after the intervention. However, the mean score of social acceptance in the CBT group was significantly lower before than after the intervention, and the mean score of social acceptance in the ACT and control groups did not make a significant difference before and after the intervention. The results also showed that the mean social cohesion scores in the CBT and ACT groups significantly increased after the intervention compared to before, and in the control group, the social cohesion scores were not significantly different before and after the intervention.

One of the innovative aspects of this study was that social health was examined through CBT and ACT, while other studies did not address it. For this reason, the researcher could not discuss the results of this study compared to other studies. Nevertheless, it can be said that social health is the ability to perform social roles effectively and efficiently and evaluate people's performance in society and the quality of their relationships with other individuals and groups (6). If social participation decreases, it leads to feelings of powerlessness and meaninglessness, while powerlessness is one of the forms of social alienation that leads to a person's tendency to addiction. In addition, social health is an essential factor in accepting social norms. It causes the individual to avoid undesirable responses, confront them, and outperform in society when faced with social life challenges (5).

Some researchers concluded that social health dimensions, such as social cohesion and social participation, are related to addiction and substance abuse (7-9). Social relationships have a significant effect on mental health (34). This study showed that the mean scores of physical health and low depression significantly increased after the intervention compared to before in the CBT group. However, there was no significant difference between the ACT and control groups regarding physical health scores before and after the intervention. In addition, the low anxiety and non-dysfunction mean scores in the ACT group significantly increased after the intervention compared to before, while in CBT and control groups, the scores of the mentioned components did not make a significant difference before and after the intervention.

This study showed that CBT effectively increased the mental health of addicts in the components of physical health and depression. In other words, CBT effectively improves the mental health of addicts. Consistent with the present study results, CBT was effective in improving mental health in previous research (17, 35-38). A study also showed that combined CBT could be a promising way to engage depressed patients in mental health intensive care (39). Carroll and Onken (36) stated that the reason for the effectiveness of CBT was the emphasis on improving coping strategies. CBT deals with the interaction of thinking, feeling, and behaving, focuses on current problems, and follows an organized style in therapeutic interventions. The basic premise of the CBT is that cognition affects emotion and behavior, and individuals respond to their cognitive representation of events more than the events themselves (40).

On the other hand, Mahmoudi and Ghaderi (41), in line with the present study results, showed that acceptance and commitment effectively reduced anxiety and stress in addicts but were ineffective in reducing depression. During treatment, the acceptance and commitment of addicts reach self-awareness, which reminds them of the past and the oppression they have inflicted on themselves and their families. Therefore, when a person becomes aware, this awareness is accompanied by feelings of guilt and depression. Karamoozian et al. indicated the effect of CBGT intervention on promoting mental health, anxiety, depression, physical symptoms, and social functioning (37).

The present study results are inconsistent with the results of Choi and Kim (42) and Twohig and Levin (43). The Twohig and Levin study showed that ACT was as useful as CBT in reducing anxiety and depression. However, this study acknowledged that the claim required clarification and that CBT or ACT might benefit from a particular statistical community of depression and anxiety. Thus, the reason for the inconsistency between the present study and Twohig and Levin's study (2017) might be different statistical populations (43). The results of Azizi et al. are inconsistent with the present study. In this study, both ACT and CBT effectively reduced depression, except that the study of Azizi et al. considered ACT and CBT according to their level of psychological-spiritual development (44).

In the ACT, the main goal is generally to create psychological flexibility to create the ability to make practical choices among different options that are more appropriate rather than just an action to avoid disturbing thoughts, feelings, memories, or desires that are done or imposed on a person (45). Similar to CBT, ACT emphasizes the link between cognition and language and psychological pathology and psychotherapy. However, the difference between the two therapies in this section is that ACT, unlike CBT, does not consider thoughts and beliefs as the direct cause of behaviors. Therefore, in this treatment, no attempt is made to change the content of thoughts and beliefs to change the individual's performance. In the ACT, thoughts and beliefs are not evaluated as healthy and unhealthy and are viewed solely based on their usefulness in achieving a valuable life. In fact, the main difference between ACT and CBT is the focus of treatment. CBT focuses on symptom reduction, but ACT does not fo-

cus directly on symptom reduction (44, 46).

5.1. Conclusions

The results showed that both ACT and CBT were influential on the mental, spiritual, and social health of addicts. Nevertheless, ACT played a more significant role in the mental, spiritual and social health of addicts. In the present study, we tried to examine all the aspects and have all the conditions as comprehensive as possible; however, self-reporting may have affected the results.

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

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