

Comparison of Acceptance Commitment Therapy (ACT) and Cognitive Behavioral Therapy (CBT) in Reducing Depression symptoms and Increasing Happiness of Iranian adolescent Girl Students

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Abstract: This study aimed to compare the effectiveness of Acceptance and Commitment Therapy (ACT) and Cognitive-Behavioral Therapy (CBT) in reducing depression symptoms and increasing happiness of Iranian adolescent girls in Shiraz-Iran in 2017-2018 educational year. The research method was quasi- Experimental with assessing participants with pre -Test, Post-Test plans and control group. The Statistical population of this study consisted of 45 adolescent girl Students- between 13-17 years old - who were referred to the school's student counselling centres because of their poor mental well being. They were selected by convenient sampling method and then they were randomly divided into three groups of 15 participants (two experimental groups and one control group). The Depression and Happiness variables were assessed by using Beck's Depression Inventory (1996) and the Oxford Happiness Questionnaire (1989) respectively.

Commitment Therapy Package was implemented for 8 sessions and Cognitive-Behavioral Package was implemented for 10 sessions for each Experimental groups separately. The Data were analysed by using SPSS24 software and analysis of multivariate covariance (MANCOVA). The results of this study suggested that both ACT and CBT Therapy approach had an acceptable effect on reducing Depression and increasing Happiness in Adolescent girls ($p < 0.05$). However, the ACT had more influence on decreasing depression symptoms (1.56 %) and enhancing happiness (4.4. %) in participants outcomes in comparison with CBT method. Thus, it seems that ACT is a more effective intervention approach in this regard.

Keywords: Acceptance-Commitment Therapy, Cognitive-Behavioral Therapy, Depression, Happiness, Adolescent Girls.

INTRODUCTION

The term "depression" describes a wide range of low emotions, including sadness to a state of pathological suicide. Depression is one of the most common mental disorders in the world [1]. The World Health Organization has reported that 21 million people around the world suffer from depression. It also predicts that unipolar major depression will be the leading cause of the disease by 2030 [2]. Various factors including biological, psychological and social factors are involved in the development of depression [3].

In the birth cycle of each individual, there is a critical period, which is placed between childhood and adulthood and is called adolescence. Adolescence is a phase of emotional instability, which is the transition from childhood to adulthood. Adolescence often involves isolation and stress. It involves guiding young people toward identity development and can be a difficult period [4]. Adolescents receive confusing

messages, conflict with family and school, and face problems of self-knowledge and self-esteem. Depression is one of the most common and debilitating problems in youth and adolescents. It is widespread that it is referred to as psychological cold [5].

The first episode of this mood disorder usually occurs between the ages of 12 and 18 years [6]. According to a study conducted by Zargham in Isfahan-Iran, 78% of girls and 57% of boys had mild to very severe depression in the 13-17 years age group [5].

Depressed adolescents are too touchy feel that they are not useful and not attractive and have no value. During the depression, children and adolescents may show symptoms of anxiety such as fear of separation and physical symptoms such as stomach pain and headache. Mood irritability is seen and suicide is a real danger in these people [1].

Varieties of treatments, including acceptance and commitment therapy and cognitive-behavioural therapy have been used for the treatment of depressed adolescents. One of the effective treatments for reducing depression is acceptance and commitment therapy. Acceptance and commitment therapy has

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been used as an effective therapeutic approach to treat and reduce the psychiatric symptoms of chronic diseases [7]. Acceptance and commitment therapy is one of the third wave therapies of behavioural therapy introduced by Hayes *et al.* since the early 1980s. It is known as the ACT. It is based on a philosophy called as functional contextualism (Hayes, 1999) [8, 9]. It is theoretically based on the theory of the framework of mental relationships determining how suffering is caused by the human mind and its useless methods of coping with it as well as alternative contextual approaches to these areas. The ACT is essentially a therapeutic behaviour, which its subject is action, not any action, but a value-oriented action. This therapeutic approach helps clients identify what is really important to them, and then, they are asked to use these values to guide behavioural changes in life. Second, this action should be mindful, that is, the action performed consciously and with full presence, and openness to experience and full participation in what is being done. ACT takes its name from the main message: accept what is beyond personal control and be committed to the action that enriches your life. The goal of this approach is to help clients create a rich, complete and meaningful life while accepting the suffering that life brings inevitably [9]. ACT uses six main processes, namely acceptance, cognitive defusion, contacting the present moment, self-as-context, values, and committed action for psychological flexibility (Hayes *et al.*, 2006) [10]. Numerous research and meta-analysis studies have supported the effectiveness of acceptance and commitment therapy in reducing symptoms of depression, anxiety, stress, and chronic pains [11]. Folko *et al.* (2012) [12] concluded that acceptance and commitment therapy is effective in reducing depression. The results of the study conducted by Horr *et al.* (2013) [13] showed the effect of acceptance and commitment therapy on depression in diabetic patients.

Cognitive-behavioural therapy is another approach used to treat depression. This treatment emphasizes the continuity of thoughts, emotions and behaviour. In this approach, it is believed that people with the reconstruction of thoughts can cope with stress. In fact, this approach encourages people to experience better emotions and to behave more appropriately by considering their negative thoughts and identifying and challenging cognitive distortions and then by reconstructing their thoughts [14].

Results of a study, examined the effectiveness of the cognitive-behavioural approach, showed that this approach affects the management of anxiety,

depression, and increased life satisfaction [15], improved mood and anxiety symptoms, increased tolerance and improved quality of life of patients. Improving communication with others is effective in reducing depression [16].

Happiness is another variable in this study. Happiness or mental well-being is the level of positive value a person considers to himself or herself and has two aspects of emotional factors, representing the emotional experience of happiness and positive emotions, and cognitive evaluation factors of satisfaction with different realms of life, representing happiness [17].

Happiness is achieved when the life activities of people have the most congruency or consistency with their deep values and abilities and their effectiveness in various fields and they are committed to those values and abilities. Under such conditions, a sense of joy and assurance is created. Wartman (2008) [18] introduced this state as the manifestation of individuals and found a high correlation between it and the level of happiness [19]. Happiness is one of the most important positive emotions and it is one of the main emotions of a human. It is one of the first emotions emerging during evolution [20].

Pernegar (2004) [21] believes that there is a strong relationship between happiness and mental health. In recent years, it has been believed that considering happiness and designing plans for happiness increase happiness, and happiness is the product of mental health, not its goal. One of these programs is acceptance and commitment therapy. The assumption of acceptance and commitment therapy is that commitment is the main problem of people. Avoidance is an experience in which one avoids thoughts and feelings and other personal events [22]. The nature of acceptance and commitment therapy is such that its effectiveness has been confirmed so far in many studies on various issues and problems. Among them, we can refer to effectiveness of acceptance and commitment training on increasing adaptation of students with mathematics disorders [23], reducing depression in patients with type 2 diabetes at the end of treatment and subsequent follow-ups [13], reducing students' social fear [24], reducing anxiety disorder [25], trichotillomania [26] and preventing re-hospitalization of psychotic patients through the acceptance of unavoidable experiences, concentrating on value-oriented activities and separating emotions from cognition, paying attention to thoughts without discussing that they are right or wrong [27].

Another method effective in happiness is cognitive-behavioural therapy. This term emphasizes that thought processes are as important as environmental impacts [28]. Cognitive-behavioural therapy programs are based on a type of therapeutic behaviour that has been developed within traditional psychotherapy situations and reflect the growing interest of therapists to improve cognition as a factor influencing the emotions and behaviours. This method aims to correct irrational beliefs, dysfunctional beliefs, misconceptions, and cognitive errors, sense of control on life, to facilitate constructive self-talks, and to enhance coping skills [29]. In short, studies have shown that cognitive-behavioural therapy is effective in enhancing happiness and mental health [30, 31]. For example, [32] evaluated the effect of cognitive-behavioural therapy on happiness and mental health of students and showed that therapy was significantly effective in enhancing the happiness and mental health.

The major advantage of ACT over other psychotherapies is to consider the motivational aspects along with the cognitive aspects to increase the effectiveness and continuity of the treatment. Due to the novelty of this technique, examining its effect on various psychological disorders seems to be essential. It can make an evolution in psychotherapy. Given the prevalence of mood disorders and depression among adolescents, the general aim of this study was to evaluate the effect of acceptance and commitment group therapy on depression and happiness in depressed adolescent girls using a control group. Hence, this research aims to answer for the question of is there a significant difference between acceptance and commitment therapy and cognitive-behavioural approach in reducing depression severity and happiness in adolescent girls with depression.

METHOD

The research method was quasi-experimental using two experimental groups and one control group. The participants of the three groups were assessed twice with pre -Test and Post-Test. The first assessment was performed with a pre-test and the second measurement was performed with a post-test. The Statistical sample of this study included 45 Shiraz -Iran adolescent girl Students between 13-17 years old in 2017-2018 educational year who were referred to the school's student counselling centres because of their poor mental well being. They were selected by convenient sampling and were randomly divided into three groups of 15 participants (two separated

experimental groups and one control group). The research method was quasi - Experimental. A Commitment Therapy Package was implemented for 8 sessions and Cognitive-Behavioral Package was implemented for 10 sessions for each Experimental group separately.

Data collection tool

Beck Depression Inventory (1996)

The Beck's Depression Inventory was first introduced in 1961 by Beck *et al.* The initial version of this questionnaire includes 21 items. In the later years, a 13-item version of the questionnaire was developed to make it's using easier. In this version, as its 21-item version, each item has 4 options that the subject must select one of them. In research, Rajabi (2005) [33] investigated the psychometric properties of this questionnaire. In his study, the concurrent validity of the questionnaire was measured using the original version of Beck's Depression Inventory and the correlation coefficient was 0.67 which was significant at $P < 0.01$. Factor analysis also showed that the questionnaire had two subscales of negative affection to yourself and non-pleasure. The reliability of the questionnaire was calculated 0.89 by Cronbach's alpha and 0.82 by the split-half method. In external studies, the validity and reliability of the 13-item version of Beck's Depression Inventory were also assessed. In the study conducted by Luty and O'Gara (2006) [34], Cronbach's alpha was obtained 0.88. Moreover, the concurrent validity of the questionnaire was also measured compared with the Montgomery Asberg Depression Rating Scale and the correlation between them was obtained 0.76. In the present study, Cronbach's alpha was obtained at 0.87.

Oxford Happiness Questionnaire

The Oxford Happiness Questionnaire includes 29 items and measures the level of individual happiness. This test was developed by Argyle in 1989. It is scored on a Likert scale. This test is widely used in studies related to happiness. Argyle *et al.* reported the reliability of the Oxford Happiness Questionnaire 0.90 with Cronbach's alpha coefficient method and reported it 0.78 by using the test-retest method with a seven-week interval. Concurrent validity of the questionnaire was calculated 0.43 using content validity and experts' evaluation. The validity of this scale has been confirmed in various studies, including the studies conducted by Alipour and Noorbala (2008) [35]. Arjil and Lu (1998) [36] reported its Cronbach's alpha 90%

on 347 subjects. Farnham and Brunick (1999) [37] also reported it 0.87% on 201 subjects and Noori reported it 0.84 on 180 subjects. In Iran, Alipour and Noorbala (2008) [35] also obtained Cronbach's alpha 0.93% on 101 subjects. Acceptance and commitment therapy protocol [38]: This package has been confirmed in the study conducted by Zolfaghari (2016) [39]. The contents of 8 sessions of this package were as followed: Session 1: Creating a relationship with empathy: Evaluating and identifying the internal drivers of consumption against external drivers, obtaining informed consent from the authorities, performing tests introduced as pre-tests.

Session 2: Creative disappointment: The goal of this step is to identify the strategies that therapists have used up to this stage, and to help them determine whether these strategies have been effective or not. During exploring the strategies that clients have already used, they are asked to consider that the problem is not that they have not made sufficient effort or the problem is not that they have not been sufficiently motivated, but the problem is the methods that they have used.

Session 3: Control as a problem with using relevant metaphors: Emphasis on the point that control strategies, in general, can give opposite result and emphasis on the point that wrong control can interfere with clients' ability to live in line with their values.

Session 4: Acceptance and defusion: As a context and mindfulness using metaphors and behavioural exercises, defusion helps to change the way of experiencing the thoughts, so that thoughts that do not have much effect on behaviour become less important and seem ultimately unrealistic.

Sessions 5 and 6: Exposure and defining values in ten areas, goals and barriers: In the short term, exposure is more painful than avoidance. Valuable goals can also provide an important motivational factor for treatment. In other words, exploring the valuable paths of clients' life.

Sessions 7 and 8: Committed action: Accepting and maintaining behavioural commitments that push clients forward based on their values. At this stage of the ACT, therapists begin to observe their life and the following question is asked from them: as there is a difference between you as a person and your personal experiences, do you want to cope with those experiences completely and without defense, as they

are not as they were said to be, and do you want to take step in the direction of the values chosen in these conditions?

Cognitive-Behavioural Package

In cognitive behavioural therapy, the method proposed by Taylor *et al.* (2009) [40] was used. It has been approved in Iran by Izadifard (2012) [41] which its contents were as followed:

Session 1: In this session, after familiarity and establishing a good relationship, the importance and goal of Cognitive Behavioral Therapy will be expressed and the problems of clients will be formulated in the form of Cognitive Behavioral Approach.

Session 2: Mastery of behavioural cues will be taught and exercises on daily life will be given for them.

Session 3: Working on the causes of events that are happening, including, Enabling students to think about why they are bothered. Why are works tied together? Self-proving, doing activities and prioritizing them will be taught.

Session 4: Working on emotional cues (including how to think, feel, and use of thoughts recording) will be taught

Session 5: Struggle with negative thoughts, skills, thoughts' recording skills and working on the cognitive errors that include the items such as evidence, looking from another angle (If this idea is correct, what is the worst thing that might happen?) will be taught.

Session 6: Identification of negative self-talk, including finding the negative self-talks, training for replacing positive self-talks

Session 7: Leaving negative thoughts, including discarding of thoughts by taking note of them, continued recording of thoughts, and problem-solving skills will be taught

Session 8: Correcting incorrect beliefs, including finding beliefs, past learning, challenging the beliefs and clarifying them will be taught

Session 9: Preparedness to complete training and replacing negative thoughts with positive emotions will be taught.

Session 10: The subjects' progress and the use of alternative strategies will be discussed, the contents of

the previous sessions will be briefly reviewed, and the learned strategies will be practised.

Research Implementation Method

First, permission was taken from high school girl schools of Shiraz to hold educational sessions. Then, 45 students who were referred to their school's students consult centers because of their poor mental wellbeing and expressing Depression symptoms such as (Sadness, Hopelessness, displeasure, Hesitation, Anorexia, Feeling of anger, Irritable or annoyed mood, low Self- Esteem, Insomnia, frequent thoughts of suicide or death) were selected randomly. Before starting the treatment sessions the status of Depression and Happiness of all participants was assessed by using pre -tests. Then, the first group of 15 participants received Acceptance and Commitment therapy during 8 sessions (twice a week). while, The other 15 participants received Cognitive -Behavioral therapy for 10 sessions(One meeting a week). The participants in the control group did not receive any training. After ending the final training session, all individuals were assessed by post-tests for the second time. The Collected data from pre-test and post-test questionnaires were analyzed by using SPSS24 software and multivariate covariance (MANCOVA).

RESEARCH FINDINGS

Descriptive Results of the Study

According to (Table 1), the mean and standard deviation of Depression score in the Acceptance -

Commitment Therapy (ACT) group and Cognitive-Behavioral Therapy (CBT) group were significantly lower than those of the control group. Moreover, the Mean and Standard deviations of the Happiness score were variable in the Experimental group of Acceptance and Commitment Therapy (ACT), the subscales of Happiness suggested a significant increase in their post-test results in comparison with Cognitive-Behavioral group's conclusions.

Main Research Results

As seen in (Table 2), the result of the Levene's test is meaningless, which indicates that the hypothesis of homogeneity of variances is held.

(Table 3) shows the significant levels of all tests (Pillai's trace, Wilks' Lambda, Hotelling's trace, and Roy's Largest Root) which indicates that there is at least one significant difference between the experimental groups in the dependent variables.

Based on the results of (Table 4) and assuming smoothing the pre-test variable, there is significant difference between two experimental groups and one control group in scores of Acceptance and Commitment Therapy (ACT) and the Cognitive-Behavioral Therapy (CBT) in the post-test stage and between the two approaches in reducing the Depression ($F=6.55$, $P=0.003$, $\eta^2 =0.247$) and increasing Happiness ($F = 0.184$, $P = 0.001$, $\eta^2 = 0.184$). These findings suggest that the ACT approach makes significant differences in the effects of

Table 1: Mean and Standard Deviations of Depression and Happiness Variable

groups		n	mean	SD
ACT	Pre-test of Depression	15	27.73	4.18
	Post-test of Depression	15	14.7	4.85
CBT	Pre-test of Depression	15	27.46	4.65
	Post-test of Depression	15	16.26	3.93
Control	Pre-test of Depression	15	26.13	5.92
	Post-test of Depression	15	26.53	5.87
ACT	Pre-test of Happiness	15	44.13	9.27
	Post-test of Happiness	15	63.20	5.78
CBT	Pre-test of Happiness	15	40.40	8.83
	Post-test of Happiness	15	58.80	5.26
Control	Pre-test of Happiness	15	42.26	6.11
	Post-test of Happiness	15	35.93	6.48

Table 2: Results of Testing the Homogeneity of Variances for Scores of ACT and CBT in Reducing Depression and Increasing Happiness in Adolescent Girls with Depressive Symptoms

variable	Significance level	df 2	df1	Statistic f
Depression	0.264	42	2	1.37
Happiness	0.164	42	2	1.85

Table 3: Analysis of Covariance Test to Analyze the Significant Differences between Depression and Happiness

effect	test	value	F ratio	degree of freedom	Error degree of freedom	Significance level
group	Pillais Trace	0.286	3.34	4	80	0.014
	Lambda Wilks	0.723	3.43	4	78	0.012
	Hotelling's trace	0.371	3.52	4	76	0.011
	Roy's Largest Root	0.334	6.67	2	40	0.0036

Depression and Happiness scores in comparison with the CBT group's outcomes.

Regarding the results of Means table, the ACT approach was more to increase Happiness and decrease Depression of participants in comparison with the CBT method.

DISCUSSION AND CONCLUSION

The results of multivariate analysis of covariance in (Table 4) showed that there is a significant difference between the Acceptance and Commitment Therapy (ACT) and Cognitive-Behavioral Therapy (CBT) in reducing Depression and increasing Happiness in adolescent girls with depressive symptom on the behalf of ACT approach. This result is in line with the results of the studies conducted [9, 13, 42-44]. Acceptance and Commitment Therapy is a behavioural therapy

using mindfulness, acceptance, and defusion skills to increase psychological flexibility. In ACT method, Cognitive flexibility refers to an increase in the ability of clients to make an association with their present experience at present moment and act (based on what is possible for them now) in a manner that is consistent with their selected values [46]. In this treatment approach, behavioural commitment exercises along with defusion and acceptance techniques, detailed discussions about one's values, goals and the need to correct the values led to a reduction in the severity of depression symptoms in Adolescent girls. In this method, the goal of putting high emphasis on people's willingness to inner experiences was helpful to experience their disturbing thoughts only as a thought, moreover, assisted them be aware of the ineffective nature of their current strategy and perform what is important to them in life and line with their values, not respond to it. Here, by self-as-context, clients were able to easily experience unpleasant internal events in

Table 4: The Results of Analysis of Covariance Test for the Evaluation of the Differences in Scores of (ACT) and (CBT) in Reducing Depression and Increasing Happiness in Girl Adolescents

Source of variations		Sum of squares	Degree of freedom	Mean of squares	Statistics F	Significance level	Eta coefficients
Pretest	Depression	58.36	1	58.36	2.407	0.129	0.057
	Happiness	18.28	1	18.28	0.262	0.611	0.007
Group effect	Depression	318.04	2	159.02	6.55	0.003	0.247
	Happiness	111.44	2	55.72	4.79	0.001	0.184
group	Depression	970.09	40	24.25			
	Happiness	2789.43	40	69.73			
total	Depression	18670	45				
	Happiness	8331	45				

the present moment and disconnected themselves from annoying reactions, memories, and thoughts. In fact, the objective was to enhance the psychological flexibility of these adolescents. This method, as the statistical consequences presented, conducted to a noteworthy reduction in depression in Girl adolescents.

Moreover, in explaining the impression of Cognitive-Behavioral approach (CBT) on depression, we can refer to the effect of behavioural activation on reducing the depression. Behavioural activation as the essence of cognitive-behavioural therapies is influenced by psychological training such as relaxation training, activity-rest cycle training, and active coping strategies training. Besides, as the patient learns to pay attention to his or her worthwhile behaviours and offer an advantage for them, the adverse influence of depression will be eliminated by augmentation the individual's useful behaviours and boosting his or her attitudes toward depression. Dobson *et al.* (2008) [47] believe that the presence of an important component of behavioural activation along with third-generation cognitive therapies is involved in declining the depression at the beginning of treatment and continuing the effects of these therapies in reducing depressive and sad mood after treatment. Therefore, it can be argued that paying attention to the negative emotions and attitudes drives gloomy mood along with reinforcing Cognitive-Behavioral therapies to enhance self-effectiveness. According to the clinical observations of the researcher and given the therapeutic protocol benefited in this study, we found that the main reason for increasing adolescent girls' happiness was changing in their viewpoints towards the rooting of their irrational thoughts augmentation, negative cycles of their belief and helplessness of their former solutions from the first session of therapy.

Based on the research findings, The Happiness of adolescent girls with depressive symptoms was enhanced with training, it was concluded that the variable of Acceptance, was caused to increase attention and attachment which, in turn, contributes to happiness enhancement. Moreover, in ACT therapy the participants' thoughts were altered by creating and developing individuals' valuation resulted from "psychological acceptance". One of the strong points of this psychotherapy approach is providing its participants with the opportunity of learning new techniques and impressive skills, such as (minimising practical avoidance, increasing psychological acceptance, contacting with the present moment) which make the person's flexibility of avoidance of.

Cognitive segregation from mental experiences. This technique enables individuals to take action independently and consciously in their real living. In this approach, in contrast to other psycho-behavioural treatments, no particular value or style is imposed on the clients. As an alternative, when the integrity is important for a client, the therapist, does not attack his or her irrationality, but assist the client to make better choices concerning his or her culture, custom, and living conditions.

Another process which is emphasized in the ACT approach and has highlighted it is the committed action. Encouraging depressed adolescent girls to clarify their values, to set their objectives, to predict the obstacles, and to commit the actions which lead them to achieve their goals. In general, the effectiveness of ACT concerning the increasing happiness in adolescent girls with depressive symptoms can be justified based on principles such as staying at present moment, observing without judgment, acceptance and raising awareness of the experiences and creating adaptive replies. Instructing the skill of observing the annoying thoughts and feelings - without judging and accepting them - increases the realization of experience rather than avoiding them which, in turn, contributes to creating the appropriate adaptive responses and controls on unpleasant thoughts and emotions in adolescent girls. the findings are suggested that the Cognitive-Behavioral approach (CBT) has been effective in enhancing happiness. The CBT method consists of emotional regulation skills, stress control training, establishing communication, emotional and self-controlling. Moreover, it includes valuable structure and self-effectiveness contents. The most advantages of Cognitive-Behavioral therapy is working on the causes of occurred events, and emotional cues, struggling with negative thoughts, recognizing negative self-talks, correcting annoying thoughts, preparing people to complete their training and to replace negative thoughts with constructive ones [48] to increase individual's happiness and mental wellbeing.

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