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THE EFFECTIVENESS OF ACCEPTANCE AND COMMITMENT THERAPY FOR SOCIAL ANXIETY DISORDER

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ABSTRACT

One of the most common anxiety disorders is the Social Anxiety Disorder (SAD) which is characterized by intolerable anxiety and self-consciousness in daily social situations. Although a large body of study is conducted on the treatment for this disorder, further studies are required on new psychological therapies. The present study aims to evaluate the effectiveness of Acceptance and Commitment Therapy (ACT) on patients with SAD. The present randomized controlled trial (RCT) study is done along with pre-test, post-test and follow-up with control group. Based on the Structured Clinical *Interview* for DSM (SCID), the 34 subjects who were prone to social anxiety disorder on the basis of DSM-5but had no other severe psychiatric disorders were distributed randomly and equally into experimental and control groups. The experimental group was treated with 12 weekly CFT sessions whereas the control group did not receive any treatment. In the initial phase of the research work especially after 12 weeks and after a follow-up period of 8 weeks, all subjects were evaluated with AAQ-II, MAAS, LOSC, SCS, WHOQOL-BREF and LSAS instruments. In addition to descriptive statistics, repeated measure analysis of variance (RM-ANOVA) was used in order to analyze the findings.Byusing SPSS-21 software, all analyses were conducted. Based on the RM-ANOVA, Acceptance and Commitment Therapy was found more effective than the control group in all of the studied variables in post-test and follow-up. All the observed differences between the two groups were significant ($P < 0.01$). Acceptance and commitment therapy (ACT) seems to play an essential role in reducing symptoms and in improving the quality of the life of patients with social anxiety disorder (SAD).

KEYWORDS: *Acceptance and Commitment Therapy (ACT), Mindfulness, Social Anxiety Disorder (SAD), Social Phobia*

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INTRODUCTION

Social anxiety disorder (SAD) is one of the most common anxiety disorders which is characterized by intolerable anxiety in social situations. This disorder usually begins in childhood and adolescence when friendly communications with peer groups increases. This disorder begins between the ages of 14 and 16 on average. It is estimated that 8-13% of the general population suffers from SAD[1-2]. Cognitive factors play an important role in the prognosis and continuity of SAD. Patients with this disorder have inefficient thoughts and beliefs that make them perceive social situations as hazardous and dangerous and they are also anxious and they try to avoid themselves from society[3].. These people attach great importance to the perspectives of others and usually receive others' opinions with criticism and humiliation. They believe that they are inclined to l make mistakes which will have terrible consequences. These beliefs exacerbate their negative emotions and create a false cycle. According to this description, some of the most important cognitive features of these individuals include low self-esteem, low self-efficacy, high dependence and high self criticism[4-5]. Many psychological treatments have been used to treat this disorder. In the recent days, Cognitive behavioral therapy (CBT) which includes exposure exercises, is empirically recommended for curing Social anxiety disorder (SAD)[6-7]. While there is widespread support for the use of traditional CBT for social anxiety disorder, attention is focused more on the patients' poor progress and their continuous dissatisfaction with life[8]. Acceptance and commitment therapy (ACT) is a third-wave cognitive behavioral therapy (CBT) that focuses on the function of psychological phenomena. The conceptualization of psychopathology in the ACT approach is based on the Relational Framework Theory (RFT) which provides a contextual and a comprehensive theory for behavioral processes in the cognitive and linguistic context[9]. This theory assumes that the core of language and cognition is to learn the ability to communicate arbitrarily between events and thereby change the function of events based on their relationship with other events[10]. RFT theorists have shown that the formation of relational frameworks begins in the infancy and children need to learn the natural language. Practicing these frameworks will result in language acquisition and other higher level skills like empathy. Some of the clinical disorders have certain impairments in the framework. The deficits in the relational framework can be closely associated with certain cognitive impairments[11]. One of the main processes that is targeted in ACT is "experiential avoidance." This phenomenon occurs when a person avoids specific personal experiences (for example, bodily sensations, emotions, thoughts, memories, etc.) and tries to take steps to change the type and frequency of these events as well as the context in which these events happen[12]. Therefore, ACT's purpose, as opposed to traditional CBT, is not to change the frequency and content of thoughts or feelings, but to teach the full and non-defensive experience in order to achieve individual goals and values. In addition, ACT does not focus on reducing symptoms although it is expected to be successful in treating this problem[13]. In SAD, experiential avoidance is demonstrated as evident and hidden behavioral avoidance that contradicts individual values[14]. Therefore, interventions such as ACTs that clearly aim to change the experiential avoidance may be useful in treating SAD. Over the past few years, there has been a growing interest in the third-wave cognitive behavioral therapy, especially ACT. In this regard, many studies including more than 100 randomized clinical trials (RCTs) have been conducted that indicate the effectiveness of this treatment for various mental disorders, especially anxiety disorders[15-16]. For example, various studies have shown the effectiveness of ACT for obsessive-compulsive disorder[13], social anxiety disorder[14, 17-18], panic disorder[16] and generalized anxiety disorder[19]. In addition, studies have shown that ACT evinces better performance even among patients who are resistant to treatment[20]. Acceptance and commitment therapy (ACT) can also be as effective as traditional CBT[13]. However, there have always been criticisms in the methodological problems as well as the low effect size of ACT studies[21]. Considering the relatively new nature of this treatment, further studies are needed to reduce the contradictions in the research. For this purpose, the present study aims to evaluate the effectiveness of ACT on patients with social anxiety disorder (SAD).

MATERIALS AND METHODS

In order to conduct the research after receiving the Code of Ethics for research from the Iran University of Medical Sciences (IR.IUMS.REC 1396.9211521214) and the necessary coordination at the site. The sampling was performed based on inclusion and exclusion criteria. According to individual sessions of the treatments, each member of the sample was assigned to one of the groups

randomly after the inclusion criteria were confirmed. The ACT experimental group received 12 hourly treatment sessions based on Eifert and Forsyth protocol (2005)[16]. According to this protocol, treatment begins by psychoeducation and discusses acceptance. The subsequent sessions were devoted to creative hopelessness, mindfulness and cognitive defusion. Finally, a few sessions were devoted to value-based behavioral exposures. The treatment sessions were performed by a Ph.D. Scholar of Clinical Psychology (corresponding author) who completed the relevant courses. he treatment sessions of the sample members were recorded after their consent. Consequently, an experienced clinical psychologist examined 20% of the treatment sessions randomly so that the therapist's loyalty to the relevant therapeutic principles is confirmed.

STATISTICAL ANALYSIS

The data obtained were analyzed using SPSS software (version 21). Repeated measures analysis of Variance (RM-ANOVA) used for analysis of comparison. The data were presented as mean ± standard deviation (SD). Probability value (P) of less than 0.05 was considered statistically significant.

Measures

Demographic Characteristics Questionnaire

The researchers designed this questionnaire which is used to investigate the demographic characteristics of the sample members. This questionnaire has five items that investigate age, gender, marital status, education, and job.

Structured Clinical Interview for DSM-IV Axis I Disorders, Clinician Version (SCID-I / CV)

The SCID-I Scale is a comprehensive standardized instrument for assessing major psychiatric disorders based on DSM-IV definitions and criteria designed for clinical and research purposes. The present study uses the clinical version that usually occurs in a session and lasts for about 45-90 minutes. The validity and reliability of this instrument has been confirmed in many studies[20]. Due to the lack of consideration of the psychometric properties of the Persian version of the SCID-5 during the research implementation and the consistency of SAD criteria in this version, the DSM-IV version is used.

Liebowitz Social Anxiety Scale (LSAS)

It is the most widely used social anxiety instrument which has two versions of clinician-administered and self-report. This instrument is designed in such a way to include the two areas of functional situations and social interactions of people with social anxiety. This instrument has 24 items of which 13 are function-related (e.g., participation in a small group) and 11 are related to social interactions (e.g., attending a party). This instrument has proper psychometric properties[21].

World Health Organization Questionnaire of the Quality of Life (WHOQOL-BREF)

WHOQOL-BREF is a 26-item self-report questionnaire that is designed to assess the quality of life in four areas of physical health (7 items), psychological health (6 items), social relations (3 items) and environmental health (8 items)[22]. The questionnaire also has two other questions that do not belong to any of these areas and they generally measure the health and quality of life. In this questionnaire, the items are graded on a 5-point scale (1 = never to 5 = completely) with higher scores representing a better quality of life. The psychometric properties of this questionnaire have already been confirmed[23].

Acceptance and Action Questionnaire-second version (AAQ-II)

Bond et al. (2007) developed this questionnaire which consists of 10 questions that measures acceptance, empirical avoidance and psychological inflexibility. In Persian version that is used in this study, higher scores reflect more psychological flexibility. In a study on 2816 people in six samples, Bond et al. indicated that this instrument has reliability, validity and satisfactory construct validity[24].

Self-Compassion Scale (SCS)

This scale is a 26-item self-reporting instrument developed by Neff (2003) to measure self-compassion. The questions contained therein are placed in 6 subscales of self-kindness, self-judgment, common humanity feelings, isolation, mindfulness and over-identification which measure the quality of a person's relationship with his experiences. Scoring it is determined at 5 point Likert scale, ranging from almost never (0) to almost always (4). The research conducted by Neff (2003) indicated a high reliability and validity for the above scale[25].

Mindful Attention Awareness Scale (MAAS)

This scale is a 15-question test, developed by Ryan and Brown (2003) in order to measure the level of awareness and attention to current events and

experiences in daily life. The test questions measure the mindfulness construct on a 6-point Likert scale (ranging from 1 for "almost always" to 6 for "almost never"). This scale provides us with an overall score for mindfulness. The psychometric properties of this instrument have already been confirmed in various studies[26].

Level of Self-Criticism Scale (LOSC)

Thomson and Zuroff designed this scale (2004), which has 22 items and measures two components of comparative self-criticism (12 items) and an internal self-criticism (10 items). This scale is scored in the Likert range 0-6. The validity and reliability of self-criticism levels scale was evaluated and confirmed by Thomson and Zuroff (2004) on a sample of 144 students[27].

RESULT

There were 8 men and 8 women of mean age 21.75 with a standard deviation 4.01 in the experimental group. There were 8 men and 7 women of mean age 22.00 years and a standard deviation 4.39 in the control group. Based on the results of the analysis, there was no significant difference between age ($t = -0.17$, $p = 0.87$) and gender ($\chi^2 = 0.034$, $p = 0.85$) in both groups.Table 1 presents the descriptive information of the research variables in the pre-test, post-test and follow-up stages divided by the groups. As observed, the mean scores of experimental group in the post-test and follow-up were higher than the control group except for the two variables of self-criticism (LOSC) and Social Anxiety symptoms (LSAS) that lower scores indicating higher improvement.

Table 1
Means and standard deviations of studied variables scores in pre-test, post-test and follow-up

Group	Variables	Pre-treatment Mean ± SD	Post-treatment Mean ± SD	Follow-up Mean ± SD
ACT	AAQ-II	23.69 ± 4.80	36.25 ± 4.12	35.44 ± 5.02
	MAAS	34.81 ± 6.00	45.94 ± 6.32	44.31 ± 4.74
	LOSC	72.31 ± 11.69	64.87 ± 8.93	67.62 ± 10.39
	SCS	65.56 ± 9.84	67.13 ± 8.99	65.69 ± 8.79
	WHOQOL-BREF	64.88 ± 13.41	77.00 ± 11.08	76.06 ± 13.39
	LSAS	74.75 ± 10.71	64.13 ± 8.71	64.00 ± 6.90
Waiting	AAQ-II	23.33 ± 5.23	22.87 ± 5.51	22.80 ± 6.33
	MAAS	35.20 ± 7.21	33.80 ± 9.58	34.87 ± 9.29
	LOSC	71.00 ± 15.63	76.00 ± 11.28	73.73 ± 10.10
	SCS	63.80 ± 11.70	62.13 ± 11.48	60.33 ± 12.19
	WHOQOL-BREF	66.33 ± 12.19	63.60 ± 8.57	60.13 ± 7.19
	LSAS	73.13 ± 9.23	73.80 ± 6.92	78.93 ± 7.79

Values are mean ± SD; (n= 31)

To investigate the significance of these observed differences, repeated measures analysis of variance was used. Research variables were considered as found within subject factors and group variable as found between subject factors. Before using this statistical method, investigation of the normal distribution using the Kolmogorov-Smirnov (K-S) test and the variance homogeneity by Leven's test were examined for all variables and this method gave their significance levels ($P > 0.05$).The statistics related to Mauchly's Test of Sphericity of the studied variables are reported in Table 2. Considering the significance of the test, the results of the Greenhouse-Geisser test were reported. As presented in the results of Table 2, there is a significant difference between the two groups regarding all the variables studied considering the pre-test, post-test and follow-up stages. The test power column indicates the significance accuracy of such effects. When closer to 1.00, the test power indicates the accuracy of such effects is greater.

Table 2
Greenhouse-Geisser and Sphericity Assumed Test results according to Mauchly's Test of Sphericity

	Mauchly's Test of Sphericity			Greenhouse-Geisser Test					
variable	**Approx Chi-Square**	**df**	**Sig.**	**Sum of Squares**	**df**	**F**	**Sig.**	**Partial Eta Squared**	**Observed Power**
AAQ-II	16.25	2	0.001	828.89	1.39	79.79	0.001	0.73	1.00
LOSC	16.21	2	0.001	606.26	1.38	13.09	0.001	0.31	0.99
Sphericity Assumed									
MAAS	5.40	2	0.067	673.07	2	43.01	0.001	0.59	1.00
SCS	4.91	2	0.086	60.54	2	3.48	0.037	0.11	0.63
LSAS	4.43	2	0.11	1107.24	2	21.12	0.001	0.42	1.00
WHOQOL	3.64	2	0.16	1366.43	2	16.41	0.001	0.36	0.99

Pairwise comparisons were used for paired investigation of significant differences between pre-intervention and post-intervention scores and the results after two months of follow-up, were entered in Table 3. Based on the data presented in Table 3, there is a significant difference between the two stages of pre-test and post-test in the experimental and control groups ($P<0.001$) and the effect size ranges between 0.20-0.80. This is considered as an effect size which is higher than the moderate. The test power ranges within 0. 73-1.00 and this suggests the high accuracy of the test in the significance of differences. Having compared the scores of the variables in the post-tests and follow-up in both the control and tests groups, the results showed that there was merely a significant difference between two variables of self-criticism and mindfulness ($P <0.003$). By investigating the mean scores of the groups, it is found that the treatment group stage has obtained very few lower scores in mindfulness at the follow-up while it has obtained higher scores in self-criticism than the post-test. In other words, it can be argued that the treatment effects in the two-month follow up for the treatment group were either not significantly decreased or even increased, except for the self-criticism and mindfulness variables while it had no change or had higher drop in the control group change ($P<0.01$). For better understanding, these results are reported in chart 1.

Table 3
Difference between different level of assessment depending on group membership

variable	**Difference between two sequential level**	**Sum of Squares**	**df**	**F**	**Sig.**	**Partial Eta Squared**	**Observed Power**
AAQ-II	Pre-test vs. post-test	1314.26	1	120.74	0.001	0.80	1.00
	post-test vs. follow-up	4.31	1	1.03	0.32	0.03	0.16
MAAS	Pre-test vs. post-test	1214.52	1	62.30	0.001	0.68	1.00
	post-test vs. follow-up	56.09	1	6.14	0.02	0.17	0.66
LOSC	Pre-test vs. post-test	1197.61	1	24.99	0.001	0.46	0.99
	post-test vs. follow-up	194.84	1	10.27	0.003	0.26	0.87
SCS	Pre-test vs. post-test	80.73	1	7.19	0.012	0.20	0.73
	post-test vs. follow-up	1.02	1	0.06	0.81	0.02	0.06
LSAS	Pre-test vs. post-test	987.11	1	28.94	0.001	0.50	0.99
	post-test vs. follow-up	214.06	1	3.92	0.057	0.12	0.48
WHOQOL	Pre-test vs. post-test	1709.19	1	31.12	0.001	0.52	1.00
	post-test vs. follow-up	49.52	1	0.54	0.47	0.02	0.11

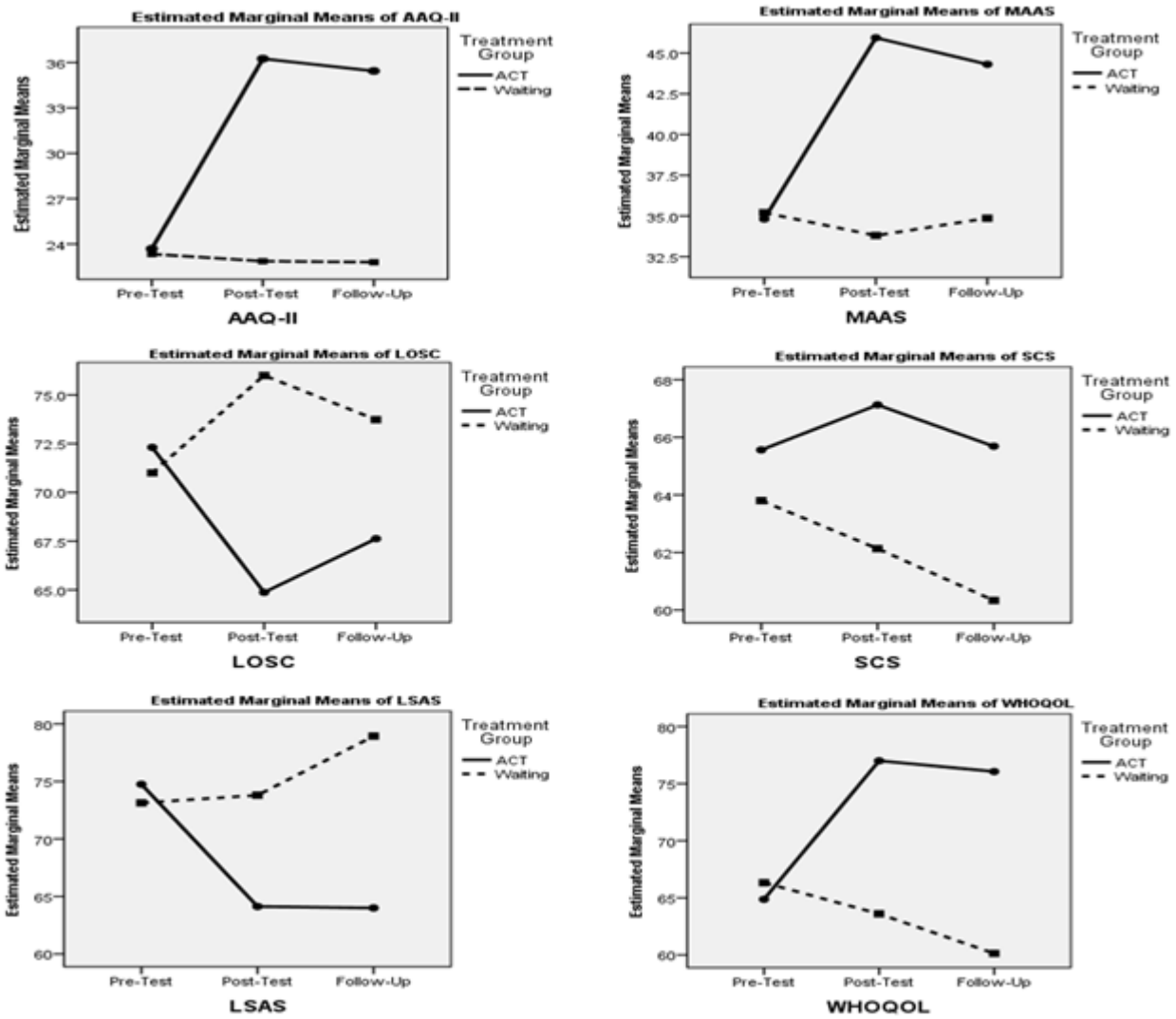

Chart 1

Difference between different level of assessment depending on group membership Discussion

DISCUSSION

This study aimed to determine the effectiveness of acceptance and commitment therapy (ACT) on patients with social anxiety disorder and compare them with control group. The results of this study showed that ACT was significantly effective in reducing psychological inflexibility, self-criticism and the intensity of social anxiety symptoms in both post-test and follow-up ($P<0.001$). In addition, ACT was able to significantly increase the levels of mindfulness, self-compassion as well as the quality of life for patients with social anxiety. However, when no treatment was performed, the items mentioned above did not change significantly or dropped during the follow-up period ($P<0.001$). In the case of mindfulness and self-criticism variables, a slight drop in the treatment group was reported that the changes in self-criticism scores were significant ($P<0.05$). The results of this study are in good agreement with many studies[14-19]. To explain the reasons for the effectiveness of ACT in this study, it is essential to make a qualitative evaluation of the treatment functions and treatment process. The techniques used in ACT increase the treatment cooperation to the extent that the participants in the ACT sessions are reported to be able to accept this treatment[30]. In the current study, the formulation framework for experiential avoidance was explained to the patients. The clients recognized the role of experiential avoidance in the continuation of their disorders and tried to cooperate more with the therapist. Another important component in ACT is the reduced experiential avoidance. ACT helps the patient accept the anxious thoughts and anxieties associated with these thoughts and take actions to achieve their valuable goals and set aside their avoidance. The cognitive defusion is also one of the most important components in ACT which helps to reduce the credibility of patient's anxiety and aims to reduce the response to these thoughts. In other words, ACT tries to help the patients create new relationships with anxiety and emotions so that they will be able to experience anxiety just as an

ordinary emotion[18]. The cognitive defusion and reduced experiential avoidance lead to increased psychological flexibility. Hence, expanding the treasury of individual behaviors in the presence of anxiety and performing valuable actions in the presence of negative emotions can be the main processes of change[30]. The reduction in experiential avoidance and cognitive defusion justify changes in the intensity of SAD symptoms and subsequently increase the quality of the life[18,31]. This study, like other studies, has some limitations. For example, the sample size is limited and this reduces the external validity and the possibility of generalization to a larger sample. Given the limited research facilities, the follow-up period is two months which should be improved in future studies.

CONCLUSION

The results of this study showed that ACT can help patients with SAD to reduce symptoms and increase their quality of life. ACT has also been effective in increasing mindfulness, self-compassion, and self-criticism. Acceptance and commitment therapy (ACT) seems to play an essential role in reducing symptoms and improve the quality of life of people with social anxiety disorder.

AUTHOR CONTRIBUTION STATEMENT

Komeil Zahedi Tajrishi designed the study based on the literature, collected the clinical data and performed therapy. Banafsheh Gharraee, Jafar Bolhari and Abas Ramezani supervised therapy method. Hojatallah farahani performed statistical analysis. All authors read and approved the final manuscript.

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CONFLICT OF INTEREST

Conflict of interest declared none.

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