The Comparison of Acceptance and Commitment Therapy with Selective Serotonin Reuptake Inhibitors in the Treatment of Obsessive-Compulsive Disorder

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Abstract

Background: The aim of this study was to compare the effectiveness of acceptance and commitment therapy (ACT), selective serotonin reuptake inhibitors (SSRIs), and the combination of ACT and SSRIs in the treatment of adults with obsessive-compulsive disorder (OCD).

Materials and Methods: In This experimental study 32 outpatients meeting DSM-IV-TR criteria for OCD were randomly assigned to one of three treatment conditions: ACT, SSRIs, and combined treatment. The Yale-Brown Obsessive-Compulsive Scale (Y-BOCS), Beck Depression Inventory-II-Second edition (BDI-II), and Beck Anxiety Inventory (BAI) were administered at pre- and post-treatment. Twenty-seven patients completed the study. Data were analyzed by one-way analysis of variance (ANOVAs) and one - way analysis of covariance (ANCOVAs), clinically significant change, and complete remission status.

Results: Analyses with ANCOVA revealed that the patients treated with ACT and combined treatment experienced a significantly greater improvement in obsessive-compulsive symptoms at post-treatment as compared to those treated with SSRIs alone. However, there were no significant differences between ACT and combined treatment on OC symptoms. In addition, no significant differences were found between all the 3 treatment groups regarding reduction in the BDI-II and BAI scores at post-treatment. Clinically significant change and complete remission status results also showed that, unlike the SSRI, the ACT and combined treatment lead to more improvement in OC symptoms.

Conclusion: ACT and combined treatment are more effective than SSRIs alone in treating OC symptoms. However, it seems that adding SSRIs to ACT does not increase the effectiveness of ACT in the treatment of adults with OCD in the short-term.

Introduction

While selective serotonin reuptake inhibitors (SSRIs) and exposure with response prevention (ERP) for treatment of obsessive-compulsive disorder (OCD) have demonstrated empirical support, a substantial number of patients remain with clinically significant OCD symptoms after these treatments [1-6]. Recently, one of the promising novel treatment strategies which have been developed to improve the efficacy of treatment for patients with OCD is Acceptance and Commitment Therapy (ACT) [7, 8]. ACT is a third-wave behavior therapy that specifically focuses on decreasing experiential avoidance, increasing activity in the chosen valued life direction, and increasing psychological flexibility [9]. From an ACT perspective, pathology of OCD stem from patient's attempts to control or reduce unwanted obsessional thoughts and negative emotions, which often paradoxically exacerbate the frequency or intensity of these aversive inner experiences, and result in inability to act in accordance with patient's valued direction [10]. In treating OCD, ACT targets particular constructs including: cognitive diffusion and decreasing experiential avoidance. ACT teaches patients to create a new relationship with obsessive thoughts and anxious emotions, for example, helping patients notice that a thought is just thought and anxiety is an emotion to be felt. ACT also helps patients commit to act in the service of their valued life goals rather than spending large amounts of time trying to decrease the obsession or avoid anxious feelings. ACT helps patients to accept their obsessional thoughts and negative feelings and commit to act in service of their valued life directions whether or not obsessions were occurring. Thus, these constructs will increase psychological flexibility, which is the ability to act in consistent with patient's meaningful life directions regardless of unpleasant inner experiences [11-12].

ACT has demonstrated large and clinically significant improvements in OCD symptoms in adults [10-13] and adolescent [14]. However, according to the best of our

knowledge, there are no randomized controlled studies directly comparing the relative effectiveness of ACT with SSRIs and the combination of ACT and SSRIs in the treatment of OCD. Therefore, the aim of this study was to compare ACT with SSRIs and the combination of ACT and SSRIs in the improvement of OC symptoms, anxiety, and depression.

Materials and Methods

In this experimental study by using convenience sampling, adults with OCD were recruited from out patients of clinics in Tehran, Iran, from February 2012 to March 2013. The study was approved by the ethics committee of Tehran University of Medical Sciences and written informed consent was obtained from the patients following them received complete descriptions regarding the study procedures. Inclusion criteria for the sample were: 1- a primary diagnosis of OCD according to DSM-IV-TR [15] 2- age between 18 to 50 years 3- OC symptoms duration of at least 1 year. Patients were excluded from the study if they: 1- had a current or past psychotic disorder 2- had suicidal tendencies 3- had a medical illness 4- had a substance abuse disorder 5- had a personality disorder 6- had been treated with either pharmacotherapy or psychotherapy in the 1 month preceding baseline. A total of 44 patients were referred for treatment, of which 40 met the DSM-IV-TR criteria for OCD. They were then interview by the use of the structured clinical interview for DSM-IV axis I disorders, patient edition, (SCID-I/P version 2) [16]; and the structured clinical interview for DSM-IV axis II disorders (SCID-II), [17] to verify the diagnosis by an independent evaluator (PhD level clinical psychologist).

Patients with other axis I disorders (except anxiety disorders, major depressive disorder, and dysthymia) and axis II disorders were excluded from the study. In all, 32 patients fitted the inclusion/exclusion criteria and were randomly assigned to one of the three treatment conditions, i.e., ACT (N=10), SSRIs (N=11), and the combination of ACT and SSRIs (N=11). Five patients did not complete the study. Three patients dropped out the drug group: one because of not tolerating the adverse of sertraline and two for irregular use of fluoxetine. One patient abandoned the group ACT for needing SSRI during treatment phase. One patient dropped out of the combination group for unknown reasons.

The mean age of the final sample (N=27) was 26.96±6.83 years; 55.6% (N=15) of the patients were men and 44.4% (N=12) women. Duration of OC symptoms ranged between 1 to 16 years. The Y-BOCS total, BDI-II, and BAI scores (Mean±SD) for the sample were, respectively, 24.4±3.07, 17.51±3.99, and 19.63±5.38. All the patients met criteria for OCD as their primary diagnosis, with 33.3% receiving one additional diagnosis. The frequency of comorbidities in each treatment condition was following: MDD and dysthymia, two ACT, two SSRIs, two ACT plus SSRIs; anxiety disorders, one ACT, one SSRI, one ACT plus SSRIs.

OCD subtypes for the sample were washing, checking, ordering, religious/sexual/aggressive thoughts, and hoarding. ACT was based on an ACT manual for OCD developed by Twohig [10]. A clinical psychologist under the supervision of an experienced clinical psychologist in treating OCD provided ACT.

The ACT program included evaluating the patient's obsessions and compulsions (session 1); The "Man in the hole" metaphor was used to illustrate how the patient's efforts to regulate obsessions are ineffective (session 2); The " Tow scales " metaphor was used to illustrate the possible benefits of acceptance of obsessions and anxiety rather than attempting to control or reduce them (sessions 3 and 4); using defusion, contact with the present or mindfulness, and self as context exercises (sessions 5 and 6); recognize his values; and preventing relapse (sessions 7 and 8). The patients in drug group received a different SSRI (sertraline=50-200 mg/d; fluoxetine=20-80 mg/d) for 10 weeks, which was monitored by 2 psychiatrist. The combination group received both ACT and a different SSRI (sertraline=50-200 mg/d; fluoxetine=20-80 mg/d) for 10 weeks.

SCID-I/P and SCID-II are widely used as gold standard instruments for diagnosing axis I and axis II disorders [18]. All participants were initially assessed using the SCID-I/P and SCID-II. Clinical symptoms were assessed using the Yale-Brown Obsessive-Compulsive Scale (Y-BOCS) [19, 20], Beck Depression Inventory-II-second edition (BDI-II) [21], and Beck Anxiety Inventory (BAI) [22] at the beginning and end of treatment.

Y-BOCS is a 10 item clinician administered scale that used for assessment of the severity of OC symptoms. It has good psychometric properties and has shown excellent treatment sensitivity [19, 20, 23, 24]. BDI-II is a 21 item self-report scale that assesses the severity of depressive symptoms. It has demonstrated good reliability (0.93) and internal consistency (0.92) [21]. BAI is a 21-item self-report scale designed to assess anxiety. It has shown high internal consistency (0.92) and test-retest (0.75) [22]. The reliability and validity of the Iranian version of the Y-BOCS [25], BDI-II [26], BAI [27], SCID-I/P and SCID-II [27] has been evaluated and shown to be as good as their original versions.

The criteria for clinically significant change (CSC) considered a Y-BOCS total score reduction of 8 scores or more from pretreatment to post-treatment and a final Y-BOCS total score≤14. Patients who achieved CSC were defined as recovered. Patients were classified as improved if they achieved reliable change which is 8 score or more, but scoring above 14 on Y-BOCS total. Patients who did not achieve reliable change on the Y-BOCS were defined as unchanged [6]. Full remission was defined as post-treatment Y-BOCS total score≤8 [28].

Group differences were evaluated using χ^2, one-way analysis of variance (ANOVAs) and one-way analysis of covariance (ANCOVAs) statistical procedures on each of the outcome measures using the SPSS-16 statistical package.

Results

Using ANOVA and χ^2 test, no significant difference was found between the groups with regard to demographic characteristics and pre-treatment measures (Tables 1, 2).

Table 1. Proportions, means, standard deviations, χ^2 and F statistics for demographic characteristics-ANOVA (SD within brackets)

Measure	Group			χ^2, F Statistics
	ACT	SSRIs	Combined	
Proportion men/woman	5/4	4/4	6/4	χ^2=0.18
Proportion single/married	4/5	4/4	5/5	χ^2=0.08
Age (yr)	25.89±5.58	27.13±4.48	27.8±9.46	F=0.17
Education(yr)	14.33±1.32	13.12±2.29	14.2±1.81	F=1.1
OCD duration(yr)	5.22±1.85	5.63±2.67	6.2±4.44	F=0.22

All $p>0.001$

Table 2. F statistics for pre-treatment outcome measures-ANOVA (SD within brackets)

Measure	Group			F-Statistics
	ACT Mean±SD	SSRIs Mean±SD	Combined Mean±SD	
Y-BOCS	23.86±2.57	25.63±2.44	24.10±3.69	0.76
BDI-II	16.89±3.48	17.38±4.37	18.20±4.41	0.24
BAI	18.78±5.17	20.88±5.47	19.40±5.66	0.31

All $p>0.001$

The patients achieving CSC at post-treatment were, respectively, 44.4%, 40%, and 12.5% for ACT, combined and SSRIs groups. Two patients (22.2%) in ACT and 2 patients (20%) in combined group and 2 patients (25%) in SSRIs group met criteria for reliability improved. Three patients (33.3%) in ACT and four patients (40%) in combined and five patients (62.5%) in SSRIs groups were classified as unchanged.

In terms of the criteria for OC symptoms full remission (Y-BOCS score≤8), 2 patients (22.2%) in ACT and 2 patients (20%) in combined group achieved this improvement level, but none of the patients in SSRIs group were full remission.

Table 3. F statistics for post-treatment outcome measures-ANCOVA (using the pre-treatment scores as the covariate), (SD within brackets)

Measure	Group			F-Statistics
	ACT Mean±SD	SSRIs Mean±SD	Combined Mean±SD	
Y-BOCS	14±4.55	19.88±3.68	13.80±3.85	5.03*
BDI-II	10.67±2.59	11.13±4.12	11.10±3.54	0.18
BAI	12.89±4.01	14.75±4.62	13.10±4.60	0.17

*$p<0.05$

Table 4. Effect sizes for pair wise post hoc comparisons

Measure	ACT vs. SSRIs	ACT vs. Combined	Combined vs. SSRIs
Y-BOCS	1.14*	0.07	1.28*
BDI-II	0.13	0.14	0.008
BAI	0.36	0.06	0.29

d=Cohen's, effect size (0.2= small effect, 0.5=medium effect, 0.8=large effect), *$p<0.001$

Table 3 displays the mean scores, standard deviation and ANCOVA results on each outcome measure in the end of treatment. The assumptions of homogeneity of variance and homogeneity of regression were met for each of the comparisons. ANCOVA results revealed significant differences between the groups on the Y-BOCS. Pair-wise post hoc comparisons of the means of the groups showed significant differences between ACT and SSRIs as well as between combined treatment and SSRIs on the Y-BOCS at post-treatment. However, there were no significant differences between ACT and combined treatment on the Y-BOCS. Furthermore, there were no significant differences between all the 3 treatment groups regarding reduction in the BDI-II and BAI scores at post-treatment. Effect sizes using Cohen's d [difference between adjusted means divided by the pooled standard deviation, [29] were calculated to evaluate the size of differences between the treatment groups. Large effect sizes were observed for differences between the ACT group and the SSRI group as well as between the combined group and the SSRI group on the Y-BOCS. However, there were no significant differences between all the treatment groups on symptoms of depression and anxiety at post-treatment (Table 4).

Discussion

The findings of our study showed that all the three treatments were effective in reducing total scores in the Y-BOCS, BDI-II, and BAI at post-treatment. Nevertheless, ACT and combined treatment presented a significantly greater improvement in severity of OC symptoms, and higher rate of complete remission of OC symptoms than those resulting from SSRIs use. Furthermore, ACT and combined treatment produced greater rates of recovery in OC symptoms as compared to SSRIs alone.

In terms of the OC symptoms improvement, results obtained in this study similar to those found in previous studies with ACT [10-14] and SSRIs [1, 2]. The rate of reduction in the Y-BOCS in the study of Twohig et al. [11], was 47.3% at post-treatment, which is virtually the same as the 41.3% reduction in the end of ACT observed in the current study. A possible explanation for the effectiveness of ACT may be the fact that reductions in experiential avoidance and cognitive fusion produce greater psychological flexibility. In other words, increasing psychological flexibility and values-base action in the presence of obsessional thoughts and negative emotions could be a core process of change in OC symptoms [11]. In support of this perspective, evidence [10-13] show that reduction in OC symptoms is due to the specific processes used in ACT (i.e., acceptance and cognitive diffusion).

The finding that ACT is more effective in improving the OC symptoms than SSRIs is consistent with previous findings by Foa et al. [30], Sousa et al. [28], Abramowitz et al. [31], and Shareh et al. [32] who found the superiority of psychotherapy over anti-obsessive drugs alone in the treatment of adults with OCD. Similarly, Foa

et al. [30], Giasuddin et al. [33], and Shareh et al. [32] have observed that the combination of psychotherapy and pharmacotherapy reached better results than pharmacotherapy alone.

Eddy et al. [3] by reviewing 18 randomized controlled trials found that the combination treatment is more effective in reducing OC symptoms than either psychotherapy or medication alone. However, in the present study the combined treatment was only more effective in reducing total scores in the Y-BOCS than medication alone. In this study, no significant differences were found between ACT and combined treatment regarding the OC symptoms improvement. These findings support the results of 2 studies [34, 35] which found no advantages of combining medication and psychotherapy as compared to psychotherapy alone in treating patients with OCD, although unlike the present study, these studies found no significant differences between combined treatment and medication alone.

In the present study, the depression and the anxiety symptoms decreased in all the three treatment groups, without significant difference between the groups. These results are in consistent with the study of Sousa et al. [28], and Twohig et al. [10-12], which demonstrated reduction in depression and anxiety symptoms in OCD patients.

In conclusion, the results of the present study demonstrated that combining SSRIs with ACT does not increase the effectiveness of ACT in improving OC symptoms, anxiety, and depression in OCD patients in the short-time. Moreover, the patients treated with ACT and combined treatment experienced further improvement in obsessive-compulsive symptoms at post-treatment as compared to those treated with SSRIs alone.

The results of this study have to be interpreted in the light of several limitations. The sample size was small, and thus these findings should be considered preliminary until replicated in larger sample sizes. Future researches will also necessary to examine whether our results are applicable to OCD patients with other comorbid conditions that were excluded from this study. The present study did not have a follow-up assessment. Therefore, future research is needed to evaluate the long-term effects of all the three mentioned treatments for OCD. It recommended future studies compare the effectiveness of ACT with other empirically supported treatments and the combination of these treatments with SSRIs for OCD. Despite these limitations, our results provide supporting evidence for effectiveness of ACT in helping patients with OCD to experience significant improvements in depression, anxiety and OC symptoms as well as highlight the importance and need for additional study in this area.

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Authors' Contributions
All authors had equal role in design, work, statistical analysis and manuscript writing.
Conflict of Interest
The authors declare no conflict of interest.

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