“The most important intervention we can offer is ourselves, who we are in each moment, being present with the other, feeling our connection, and verbally and non-verbally conveying this felt sense.”

- Anonymous
METHODOLOGY

A considerable body of research has provided evidence for the efficacy of Acceptance and Commitment Therapy for Obsessive-Compulsive Disorder; however, there is not much empirical data to support the actual impact and effects of Acceptance and Commitment Therapy on measures that may mediate to make this therapy efficacious. Therefore, in the present study, an attempt was made to examine the effects of Acceptance and Commitment Therapy on psychological flexibility, thought suppression, mindfulness skills, and symptom severity in patients diagnosed with Obsessive-Compulsive Disorder.

Aim

To examine the effects of Acceptance and Commitment Therapy (ACT) on Psychological Flexibility, Thought Suppression, Mindfulness Skills, and Symptom Severity in patients diagnosed with Obsessive-Compulsive Disorder.

Objectives

To explore the changes in patients diagnosed with OCD, subsequent to their undergoing treatment of Acceptance and Commitment Therapy, in the following:

1. Psychological flexibility or Acceptance
2. Thought suppression
3. Mindfulness skills (observing, describing, acting with awareness and acceptance), and
4. Symptom severity of OCD.
Hypotheses

There will be a significant change in the measures as given below, subsequent to the intervention of Acceptance and Commitment Therapy (post- and follow-up) in patients diagnosed with OCD, i.e.,

1. Significant increase in Psychological Flexibility,
2. Significant decrease in the Thought Suppression,
3. Significant increase in the mindfulness skills (observing, describing, acting with awareness and acceptance), and
4. Significant reduction in the severity of symptoms of OCD.

Operational Definitions

Psychological Flexibility: Psychological flexibility (also referred to as acceptance) is the ability to fully contact the present moment and the thoughts and feelings it contains without needless defense, and, depending upon what the situation affords, persisting or changing in behavior in the pursuit of goals and values. In the present study, psychological flexibility or acceptance was examined using the Acceptance and Action Questionnaire II (AAQ-II) by Bond et al. (2011).

Thought Suppression: Thought suppression is the act of attempting to ignore or control ones’ thoughts that are found to be threatening or distressing. It is the act of experientially avoiding one’s thoughts. In the present study, thought suppression was examined using the White Bear Suppression Inventory (WBSI) by Wegner & Zanakos (1994).

Mindfulness Skills: Involves some skills that are developed as a result of practice of mindfulness meditation, such as Observing: Noticing or attending to various stimuli including internal phenomena (cognitions, bodily sensations) and external phenomena.
(sounds, smells); *Describing:* Involves participant describing, labelling, or noting of observed phenomena by applying words in a nonjudgmental way; *Acting with awareness:* Being attentive and engaging fully in one’s current activity. It includes the DBT skills of ‘participating’ and ‘one-mindfully’; *Accepting (or allowing) without judgment:* To allow reality or what is there, to be as it is without judging or avoiding. In the present investigation, mindfulness skills were examined using the Kentucky Inventory of Mindfulness Skills (KIMS) by Baer, Smith and Allen (2004).

**Symptom Severity:** Symptom severity refers to the magnitude with which the symptoms of the disorder affect an individual’s everyday life. In the present study, symptom severity was assessed using the Obsessive-Compulsive Inventory – Revised (OCI-R) by Foa et al. (2002).

**Sample**

The sample consisted of 30 patients with the diagnosis of Obsessive-Compulsive Disorder (OCD) taken from the out-patient services of hospitals and psychiatric clinics in New Delhi. The sample included 6 females and 24 males. Table 1 (given below) shows the socio-demographic and clinical characteristics of the sample. The mean age and education of the sample was found to be 29.30 years and 14.90 years respectively. The mean age of onset of illness and duration of the illness was found to be 20.03 years and 7.80 years respectively.
Table 1. Socio-Demographic and Clinical Characteristics of the Sample (N=30)

<table>
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<th>Socio-Demographic and Clinical Variable</th>
<th>Range</th>
<th>Mean</th>
<th>SD</th>
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<td>Age (in years)</td>
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<td>8.21</td>
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<td>Education (in years)</td>
<td>10-19</td>
<td>14.90</td>
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<td>Age of onset (in years)</td>
<td>16-31</td>
<td>20.03</td>
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<tr>
<td>Duration of illness (in years)</td>
<td>1-24</td>
<td>7.80</td>
<td>6.45</td>
</tr>
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**Inclusion Criteria**

1. Patients diagnosed according to ICD-10 criteria (WHO, 1992) for OCD (F42)
   a) Predominantly obsessional thoughts or ruminations (F42.0)
   b) Predominantly compulsive acts [obsessional rituals] (F42.1)
   c) Mixed obsessional thoughts and acts (F42.2)

2. A Y-BOCS (Goodman et al., 1989) score of 16 and above.

3. Age between 18-55 years.

4. Patients stabilized on medication for a period of 2 months.

5. Minimum educational qualification of X standard.

6. Ability to comprehend English language.

**Exclusion Criteria**

1. Patients with a history of organicity, epilepsy or any other neurological defects or mental retardation.
2. Patients with a history of serious medical conditions such as diabetes or hypertension.
3. Patients with dysthymia or chronic depression or depression with psychotic symptoms.
4. Patients diagnosed for a concurrent personality disorder and psychoactive substance use disorders.
5. Patients having undergone any psychological intervention for OCD in the last 1 year.

Design

A single group open label study with pre-, post-, and 1 month follow up assessment (Within-Subjects Design) was adopted for the present study. All patients diagnosed with Obsessive-Compulsive Disorder, received eight sessions of Acceptance and Commitment Therapy on out-patient basis. These patients were stabilized on medication for a period of 2 months, as mentioned in the inclusion criteria.

Tools

1. Socio-Demographic and Clinical Data Sheet (developed for the study),
2. Behaviour Analysis Pro-forma (BAP) (Kanfer & Saslow, 1965),
3. Acceptance and Action Questionnaire II (AAQ-II) (Bond et al., 2011),
5. Kentucky Inventory of Mindfulness Skills (KIMS) (Baer et al., 2004),
6. Obsessive-Compulsive Inventory - Revised (OCI-R) (Foa et al., 2002),
7. Home-work Record Form (developed for the study).
Description of Tools

1. Socio Demographic and Clinical Data Sheet: This data sheet was used to obtain information about age, gender, education, occupation, duration of illness, symptoms and treatment history. (Appendix B)

2. Behaviour Analysis Pro-forma (BAP): This Pro-forma developed by Kanfer and Saslow (1965) involves assessment of problem behaviours in seven steps, namely, analysis of problem situation, clarification of problem situation, motivational analysis, developmental analysis, analysis of self-control, analysis of social relationships and analysis of socio-cultural-physical environment. This was used to assess specific behaviours in various areas such as the social, cognitive, biological and historical factors, to obtain a comprehensive understanding of the patient’s illness. (Appendix C)

3. Acceptance and Action Questionnaire II (AAQ-II): This scale developed by Frank Bond and others, assesses a person’s psychological flexibility/acceptance - the willingness to experience (i.e., not alter the form, frequency, or sensitivity of) unwanted private events, in the pursuit of one’s values and goals; and experiential avoidance - the attempt to alter the form, frequency, or situational sensitivity of negative private events (e.g., thoughts, feelings, and physiological sensations). It is a 10-item measure, a refinement of the original scale (Hayes et al., 2004). The items on the AAQ-II are rated on a 7 point Likert-type scale from 1 (never true) to 7 (always true). High scores on the AAQ-II are reflective of greater acceptance and action, while low scores reflect greater experiential avoidance and immobility. (Bond et al., 2011). The Range of scores for AAQ-II was calculated to be: Low: 10 – 30, Moderate: 30 – 50, High: 50 – 70. (Appendix D)

4. White Bear Suppression Inventory (WBSI): This scale developed by Wegner & Zanakos (1994), is a 15-item questionnaire that is designed to measure thought suppression
and evaluate change over time. The scoring of the WBSI is based on a 5 point scale from strongly disagree (1) to strongly agree (5). The total score is obtained by summing up the responses that are provided by respondents. The total score can range from 15 to 75. Higher scores on the WBSI indicate greater tendencies to suppress thoughts. The Range of scores for WBSI was calculated to be: Low: 15 – 35, Moderate: 35 – 55, High: 55 – 75. (Appendix E)

5. Kentucky Inventory of Mindfulness Skills (KIMS): Developed by Baer, Smith and Allen (2004), this is a 39-item self-report inventory that is used for the assessment of mindfulness skills. It is a well-validated multidimensional questionnaire measuring dimensions of mindfulness on four scales: Observing, Describing, Act with Awareness, and Accept without Judgment. Confirmatory factor analysis reveals good support for the hypothesized model of four correlated factors. The Range of scores for KIMS was calculated to be Low: 39 – 91, Moderate: 91 – 143, High: 143 – 195. (Appendix F)

6. Obsessive-Compulsive Inventory - Revised (OCI-R): Developed by Foa et al. (2002), the OCI-R is a self-report instrument to determine the diagnosis and severity of obsessive-compulsive disorder (OCD). It is an 18-item inventory using a five-point distress scale ranging from 0-4, with a cut off score of 21. It has 6 sub-scales: Washing, Checking, Ordering, Obsessing, Hoarding and Neutralizing. The Range of scores for OCI-R was calculated to be Low: 0 – 24, Moderate: 24 – 48, High: 48 – 72. (Appendix G)

7. Home-work Record Form: This was developed for the study to monitor the patients’ adherence to homework exercises. (Appendix H)
PROCEDURE

Pilot Phase

The tools were administered on 4 patients diagnosed with Obsessive-Compulsive Disorder in order familiarize the investigator with the administration of the tools. The socio-demographic and clinical data sheet and the homework record form were developed. The researcher underwent training of the principles and techniques of Acceptance and Commitment Therapy and for conducting sessions of Acceptance and Commitment Therapy (ACT) for Obsessive-Compulsive Disorder, under the guidance of a senior clinical psychologist from NIMHANS, Bangalore. A session-wise format for the eight sessions of therapy was developed during this phase to ensure uniformity in conducting therapy sessions in the main phase of the study.

Main Phase

Intake interview: Patients were screened for the suitability of the study according to the inclusion-exclusion criteria. Patients who did not fulfill the criteria were not included in the study and referred to other professionals. Patients were recruited for the study on a regular basis. They were informed about the nature and components of the program, and the number, frequency and distribution of sessions through the course of therapy. The informed consent, in written form, was obtained from the patients. (Appendix A)

After obtaining informed consent, the pre-assessment was carried out. This included the Socio-Demographic and Clinical Data Sheet, Behaviour Analysis Pro-forma (BAP), Acceptance and Action Questionnaire II (AAQ-II), White Bear Suppression Inventory (WBSI), Kentucky Inventory of Mindfulness Skills (KIMS), and Obsessive-Compulsive
Inventory-Revised (OCI-R). This was followed by psychoeducation and explanation of the rationale for therapy. The therapeutic program consisted of a total of 10-12 sessions spread over a period of 5-6 weeks, including the 8 therapy sessions of 1-hour duration that were held bi-weekly, the psycho-education and the pre- and post- intervention assessments. Before each session was begun, a few minutes were spent in discussion and feedback of the previous session to ensure that the patient was comfortable and ready to proceed further.

The homework exercises given to the patients were regularly monitored during the course of therapy using the Homework Record Form. After the completion of the therapy, lasting 4 weeks, the post-assessment was carried out using Acceptance and Action Questionnaire II (AAQ-II), White Bear Suppression Inventory (WBSI), Kentucky Inventory of Mindfulness Skills (KIMS), and Obsessive-Compulsive Inventory-Revised (OCI-R).

One month subsequent to the termination of therapy and post-intervention assessment, the follow-up assessment was conducted for each patient using the same tools. All sessions and assessments were done individually with every patient. During the course of the research, 6 patients dropped out of therapy because of personal reasons, and did not become a part of the final sample. The main study was carried out on 30 patients.

**Therapeutic Procedure:**

The intervention program was adapted from Twohig, Hayes and Masuda’s work (2006) using Acceptance and Commitment Therapy as a treatment for Obsessive-Compulsive Disorder. The treatment used in the present study comprised of 8 sessions, sessions being held bi-weekly over a period of one month having specific goals and tasks for each session. The initial sessions focused upon assessments and psychoeducation.
Subsequent to completing the socio-demographic and clinic data sheet, assessment was begun by collecting pertinent information on the patient’s obsessions and compulsions using the ‘Behavior Analysis Pro-forma’, followed by other assessments. The treatment program was introduced and a verbal contract for the eight sessions was made.

Psychoeducation

This involved providing information about the nature, etiology, and manifested symptoms of Obsessive-Compulsive Disorder. The prevalence, prognosis and relapse were also discussed. The patients were educated about the difference between obsessions and compulsions and how obsessions can occur independently, without the compulsion. The methods that are commonly used to reduce the obsessions were discussed. The rationale for psychotherapy as a tool for ‘equipping’ patients with skills to manage OCD, along with compliance to medication, was also discussed.

Therapeutic intervention

The intervention consisted of 8 sessions, each held bi-weekly. The therapeutic program was designed with two major goals, 1) Fostering acceptance of thoughts and feelings, 2) Commitment and Action towards living life according to chosen value. The sub-goals specific to treatment of OCD were, a) facilitating a decrease in experiential avoidance i.e. thought suppression in OCD, b) enhancing psychological flexibility or acceptance and increasing the willingness to experience difficult emotions, c) cultivating and enhancing mindfulness skills, d) reducing cognitive defusion by working on minimizing thought-action fusion, and e) decreasing the need to respond to obsessions, thereby, decreasing the compulsive urge.
Every session was begun by reviewing events since last session and prescribed homework. New material was presented and discussed in the light of the previous sessions and the new homework and behavioural commitment exercises were agreed upon. These exercises focused upon engaging in values-guided behaviour and prevention of attempts to control thoughts or engage in compulsive acts. However, the focus was not on reducing obsessions or anxiety, but on commitment and action towards life while practicing other ACT techniques such as acceptance and defusion. The summary and the goals of each session are described below:

**Session I** – The first session involved understanding patient’s methods of dealing with the anxiety, what he or she has been trying to do to decrease the obsession, and evaluating what has worked, and what has not. Compulsion was illustrated as an act of bringing temporary, short-lived but immediate relief from anxiety, but having a long-term impact of strengthening the obsession. Another important aspect discussed was the emotion control strategy being used by the patient. Using the ‘white bear’ metaphor (Wegner et al., 1987), it was demonstrated how controlling the obsession actually results in a paradoxical increase of it. The ineffectiveness of attempts to control the obsession was demonstrated using the ‘person in the hole’ metaphor (Hayes et al., 1999). The metaphor described the participant falling into a hole (which represents the obsession) with only a shovel to get out (tool for reducing the obsession). The metaphor went on to describe how the participant’s attempts to dig himself out of the hole (representing attempts to reduce or control the obsession) never got him out of the hole and actually made the hole seem larger (the paradox of how struggling with one’s obsessions can make them larger and more difficult to handle). Thus, it was intended to diminish the patient’s
focus on reducing or controlling the obsession and to highlight the difficulty of controlling it.

**Session II** – Using metaphors, the patients were made to experience the difference between an obsession (an uncontrollable private event) and a compulsion (a controllable public event), shifting the focus from decreasing the obsession to decreasing the compulsion. Controlling the obsession is neither possible nor fruitful, however, controlling the compulsion is. The ‘Two Scales’ metaphor (Hayes et al., 1999) was discussed to illustrate the possible benefits of acceptance of the obsession and other private events such as anxiety over attempting to control them. This involved shifting the patient’s attention from decreasing undesired private events such as the obsession, to increasing willingness to experience them, thus, emphasizing the need to prevent experiential avoidance. The patient was taught that being willing would not necessarily decrease the obsession, but that being unwilling would certainly increase it. Therefore, being willing will allow the obsession and feelings of anxiety to do what they do, whereas attempts to control the obsession can have paradoxical affects and increase its frequency, intensity, and the obsession’s capacity to control behavior (Twoodig, Hayes and Masuda, 2006).

**Session III** – Taking on from the previous session, this session focused on enhancing patient’s willingness to experience difficult emotions and obsessions. They were encouraged to experiment with stopping the struggle for emotional control and practice willingness to experience distress as an alternative. It was demonstrated how this experiential avoidance of discomfort was in turn linked with language processes, such as
entanglements in one’s own judgments and evaluations. The concept of mindfulness was introduced, with emphasis on ‘letting go’ of the control struggle and observing events just as they are. The patients were introduced to ‘mindfulness of breath’, i.e., observing one’s own breathing and was practiced in the session. The goal is to enable patients to practice paying attention to breathing, and to learn to watch and allow other internal events to come and go. Homework included practicing ‘mindfulness of breath’ and doing one routine activity with deliberate moment-to-moment awareness of it. They were asked to record the same in the homework record form.

Session IV – This session focused upon mindfulness and acceptance. ‘Breath’ was described an ‘anchor’ for life, the only permanence in the world of impermanence. It was emphasized that emotions, thoughts, and obsessions, are mental events that are transient in nature and how one can let them pass by, and chose to accept them without being affected. Thus, allowing patients to recognize the need to ‘let go’ of control, to be present in each moment mindfully, and observing things ‘just as they are’ non-judgmentally. Using metaphors such as the ‘Dog on the street’ and ‘Unwanted Guest’, the need to increase willingness to stay on course of committed action while taking anxiety along for a ride as a choice, was highlighted. Mindfulness sitting exercise (adapted from Segal et al., 2002) was taught as a way of enhancing present-moment awareness, by noticing shifts in awareness of the moment, by gently bringing it back to focus, and reconnecting with moment to moment awareness. Homework included sitting mindfulness exercise.

Session V – This session was designed to work through thought-action fusion and in turn, work on reducing cognitive defusion by changing the psychological function of the
obsession from something threatening to just another mental event. Patient’s are illustrated the difference between having a ‘thought’ and ‘doing’ an action, or having a consequence. Removing the emotional component from an obsession was highlighted using the defusion exercise of rapidly repeating the obsession until it no longer evoked any emotional significance (Masuda et al., 2004). The goal is to create a distance from ‘the thought’, to be able to see it from an observer’s perspective and to enable the patient to recognize that the thought is just a ‘neutral event’, a mere part of one’s existence which one should allow to pass through without needless defense. The metaphor of obsession as passenger and the individual as the driver was used to illustrate the same. Homework included 30-40 minutes of daily practice of mindfulness exercise.

Session VI - The patient’s were illustrated the short-lived increase in anxiety following one’s choice of letting go of the obsession, using the metaphor of ‘passenger on the bus’, who might get upset with the loss of control but ultimately has to surrender to the control of the driver. Patients are taught to develop a new relationship with their private events or obsessions, where they forgo the struggle with the obsession, view it from a distance, recognize that it is a mental event, and observe and accept it as it is, without trying to alter it, respond to it or control it. To demonstrate the ultimate control of the patient over the obsession and to be able to view self-as-context, the metaphor of the ‘chessboard’ was used (Hayes et al., 1999), where the board is the patient and the pieces are the obsession. The patient is helped to recognize how it is possible to co-exist without damage to self, just as the chessboard can exist without being damaged by the pieces. Another metaphor used in this context was ‘furniture in the house’, where the patient is the house and obsessions as mere pieces of furniture. Mindfulness exercises allow them to notice the process of
thinking, verbal evaluations, and helping them break this pattern through awareness. Homework included 40 minutes of mindfulness exercise, observing the process of thinking, drifting of awareness, and bringing awareness to the present moment.

Session VII – This session was utilized to overview the previous sessions in detail and to discuss patient’s values and increased behavioral commitments to follow those values. Values in different areas were discussed, for e.g., family, work, hobbies, etc, asking them to rate each area in significance and on success in pursuing them. The ‘tombstone exercise’ was used to assess patient’s values that were most significant followed by helping them devise ways of pursuing the same. This was done using a comforting and a non-threatening approach. The patients were given the opportunity to make larger behavioral commitments that involved following one’s values and demonstrating an increased willingness to experience the obsession. This allowed patient’s to see bigger life goals in the background of seemingly inconsequential obsessions.

Session VIII – The last session focused on building concrete action plans, helping patients distinguish between deciding and choosing to engage in committed action. This was done in the form of a discussion giving the patients an opportunity to speak about what they have learned through the therapy and how they plan to apply it in their life. They were encouraged to make and keep commitments in the presence of perceived barriers (e.g., fear of failure, sadness, anxiety), to persevere and to be non-judgmental or critical about themselves during the course of action. Using the metaphor of ‘babies falling when learning to walk’, it was emphasized that obstacles and hardships are a part of any success journey. The whole program was reviewed focusing on preventing experiential avoidance of
unpleasant experiences, willingly accepting them, allowing oneself to view thoughts as ‘just thoughts’ and ‘letting go’ of the struggle to respond to them. Patients were encouraged to incorporate mindfulness in their daily life and suggested ways to do the same. The feedback that was received during this session formed the basis for termination of the sessions.

The therapy sessions were terminated subsequent to the completion of the last session and the post-intervention assessments were conducted within the same week. After the assessment, the patients were asked to return after a period of 1 month (specific date was given) for the follow-up assessments. Therapy was terminated since the patients were found to be suitable for the process of termination, however, as per the ethical considerations, provision of continued therapy was there for patients who needed more long-term intervention but would not be included in the final sample of the study.

**Flow-Chart**

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Intake interview

Fulfill the criterion       No

Excluded

Yes
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**Statistical Analysis**

The scores obtained on all the measures were categorized under 3 ranges, i.e., Low, Moderate and High, using the formula ‘from L to L + (H–L)/3’ for Low, ‘from L + (H–L)/3 to L + 2(H–L)/3’ for Moderate, and ‘from L + 2(H–L)/3 to H’ for High, where L was the lowest possible score and H was the highest possible score. The software ‘Statistical Package for the Social Science’ (SPSS) version 15 for windows was used to compute the One-way ANOVA with repeated measures to analyze the difference between the means of the variables (Psychological Flexibility, Thought Suppression, Mindfulness Skills and Symptoms) at 3 time points (pre-/baseline-, post- and 1-month follow up). Post hoc comparisons using Tukey procedures for pairwise comparison of means were made to determine which pairs differed significantly. The effect size using Cohen’s d was calculated for each significant pairwise comparison (difference between the means at baseline to post-, baseline to follow up-, divided by standard deviation of baseline mean). Analysis of clinical significance (Jacobson and Truax, 1991) was done using the Reliability Change Index (RCI) for each patient to evaluate the degree of change following ACT. A clinically significant change was defined as one exceeding a specified Reliability Change Index (RCI>= 1.96). The RCI equals the difference between patients’ pre- and post-/follow-up scores divided by the standard error of the difference. Two-tailed t-test for difference between two independent means was done to test the effect of age, sex, education, duration of illness and age of onset on the outcome of the treatment. The statistical significance level was set at 0.05.

**Ethical Considerations**

1. Patients were informed about the current study.
2. Written informed consent was obtained.

3. Confidentiality was assured and maintained.

4. Patients who did not fulfill the criterion and were excluded at the intake stage were referred to other professionals for appropriate intervention.

5. Patients were ensured the freedom to drop out from the treatment if they wished to.

6. Patients requiring psychological intervention, beyond the duration of the study, were continued to be seen for therapy.