



IMPACT OF THOUGHT-ACTION FUSION ON THERAPEUTIC OUTCOMES IN OBSESSIVE-COMPULSIVE DISORDER THROUGH A COMPARISON OF COGNITIVE BEHAVIORAL THERAPY AND ACCEPTANCE AND COMMITMENT THERAPY

Salma Rehman^{1*} and Erum Irshad²

^{1*}Department of Psychology, Islamia College Peshawar

²Department of Psychology, University of Peshawar

***Corresponding Author:** Salma Rehman

^{*}Department of Psychology, Islamia College Peshawar

ABSTRACT

This research study aimed to assess and compare the efficacy of Cognitive Behavioral Therapy (CBT) with Acceptance and Commitment Therapy (ACT) in patients with Obsessive Compulsive Disorder (OCD). This study further seeks to determine the role of thought-action fusion in the management of obsessive-compulsive disorder. The sample's age range was 18 to 45 years (with a mean age of 30.76). The sample consisted of (N=60) diagnosed patients who meet the diagnostic criteria of DSM-5 for obsessive-compulsive disorder. The purposive sampling technique was used to collect the data from the Department of Psychology of public sector universities and private and public sector hospitals of Peshawar. A quasi-experimental design with a pre and post-test was used in the current study. Subsequently, these patients were allocated into two groups, each with 30 patients. The patients in the control group (group I) received Cognitive Behavioral Therapy while those in the experimental group (group II) received Acceptance and Commitment Therapy. The therapeutic outcome of the study was measured through the Yale-Brown Obsessive Compulsive Scale (Y-BOCS), and Thought-Action Fusion Scale Revised (TAFS-R). A total of 13 individual sessions were conducted weekly with all patients to evaluate the effectiveness of interventions for clients with OCD. The results of the Paired Sample t-test indicated significant differences in mean scores from the pre-test to the post-test revealing that both interventions played a significant role in the improvement of Thought Action Fusion, and the overall severity level of OCD. The Independent Sample t-test was used to compare the efficacy of CBT and ACT based on the Thought Action Fusion. Consequently, both interventions were efficacious on all measures. They significantly contributed toward lowering the severity of OCD symptoms. Still, some differences did emerge, in that ACT showed high efficacy in the improvement of Thought-Action Fusion as compared to CBT. In conclusion, the findings of the present study suggest that ACT is a viable therapeutic alternative to CBT, the current gold standard treatment for OCD. Further, they pave the way for future investigation to identify the shared versus unique mechanisms of therapeutic change.

Keywords: Obsessive-Compulsive Disorder, Thought-Action Fusion, Cognitive Behavioral Therapy, Acceptance and Commitment Therapy.

Introduction

Obsessive-compulsive disorder is characterized by obsessions, recurring intrusive thoughts, and compulsions that are performed primarily in response to these intrusions (APA, 2013). Obsessions are recurrent intrusive thoughts, images, or impulses that are not under direct control and cause significant anxiety, while compulsions are deliberately performed repetitive behaviors aimed at neutralizing that anxiety. OCD is diagnosed when it causes marked clinically significant distress in social, familial, academic, occupational, and other important areas of functioning (APA, 2013).

OCD is the fourth most prevalent mental illness globally, affecting 1% to 3% of the general population (Veale & Roberts, 2014). OCD usually affects people before they reach their mid-twenties (Kessler et al., 2005). Once established, OCD typically progresses continuously in 84% of cases while deteriorating episodically in 14% of cases (Rasmussen & Tsuang, 1986). OCD can persist for many years without appropriate treatment, leading to significant functional impairments and reduced quality of life (Koran et al., 1996).

Cognitive distortions are biased ways of appraising or interpreting, oneself, others, and the surrounding world, arising from inaccurate information processing. In individuals with OCD, a common cognitive distortion is the belief that one's thoughts are important or represent one's true intentions, leading them to attribute undue significance to these thoughts (Obsessive Compulsive Cognitive Working Group [OCCWG], 1997). Cognitive distortions that are particularly relevant to OCD include metacognition and thought-action fusion, which have garnered attention among OCD patients (Berle & Starcevic, 2005).

Thought-Action Fusion (TAF) is a cognitive bias in which people mistakenly believe that thinking about an action is the same as doing it. According to earlier research, OCD patients frequently have higher Thought-Action Fusion, which involves the notion that one's thoughts may protect others from harm. This may in turn lead to cognitive distortions. TAF-Moral and TAF-Likelihood are the two sub-dimensions into which this concept falls. TAF-Moral is the conviction that anticipating a destructive action is just as immoral as actually carrying it out. On the other hand, TAF-Likelihood refers to the belief that thinking about a negative event increases the chances of it occurring. TAF-Likelihood is further divided into "Likelihood-Other," where one believes their thoughts could cause harm to others, and "Likelihood-Self," where an individual believes their thoughts could cause harm to themselves. (Berle & Starcevic, 2005; Shafran & Rachman, 2004; Shafran et al., 1996).

Despite its significance, metacognition and thought-action fusion has not been regularly evaluated in OCD patients undergoing pharmacological treatment (Park et al., 2020). The role of TAF in OCD highlights the importance of exploring its implications for Cognitive-Behavioral Therapy. In CBT, patients learn that their anxiety and compulsions stem from mistaken beliefs about unwanted thoughts, rather than the thoughts themselves. Modern CBT guides for OCD specifically address TAF through instructional modules, emphasizing its importance in treatment (Steketee, 1999).

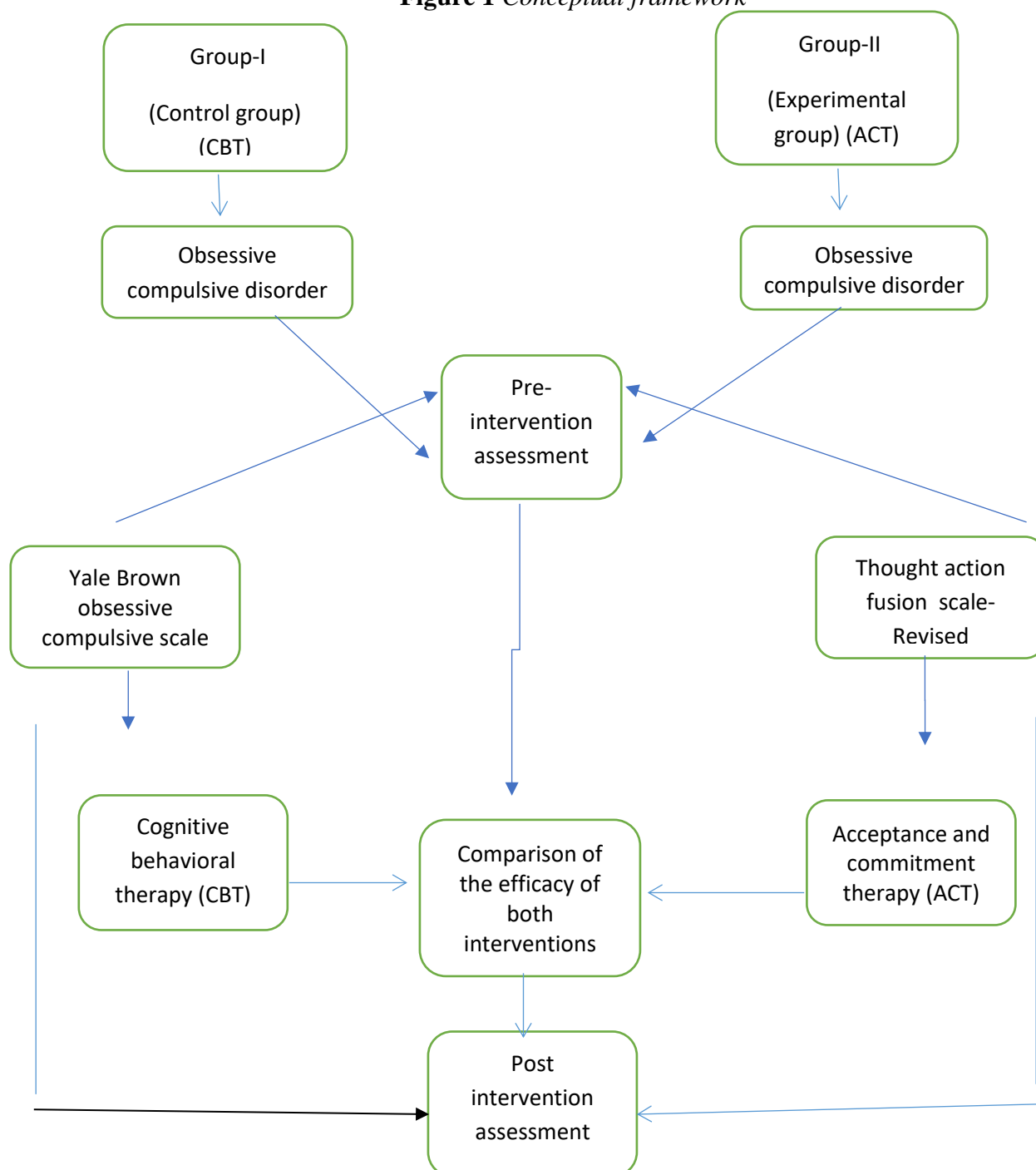
When designing evidence-based OCD prevention programs, considering the role of Thought-Action Fusion related cognitions may be valuable in preventing obsessional symptoms from emerging. Research by Zucker et al. (2002) lends support to this approach. Understanding and addressing TAF is essential for effectively comprehending and treating OCD symptoms.

Cognitive-behavioral therapy (CBT) a second-wave therapy, seeks to reduce OCD symptoms by challenging, disputing, and correcting the inaccurate and negative interpretations of intrusive thoughts, impulses, or images that fuel the disorder (Rachman, 1997). CBT aims to offer rational alternatives to cognitive distortions, and to the misinterpretations of intrusive thoughts (Wells, 1997).

Acceptance and commitment therapy (ACT) is a third-wave therapy that focuses on enhancing psychological flexibility and adapting to changing situations and experiences. The primary aim of ACT is to reduce the gap between an individual's experiences of suffering and their capacity to function effectively in daily life (Hayes, 2004). It changes people's perceptions of their bodies, minds, ideas, and emotions; it alters their desire to live, motivations, and priorities. The ACT doesn't change cognition by challenging, disputing, disproving, or rejecting thoughts. Furthermore, it does not promote avoiding, repressing, ignoring, or diverting attention from one's thoughts. ACT assists

people in changing the way they think by (a) defusing unhelpful cognition and cognitive processes and (b) developing new, more productive thought patterns. However, a common misconception regarding ACT was that it ‘doesn’t change thought patterns but ACT does change the thinking (Haris, 2023).

Figure 1 Conceptual framework



Rationale

Obsessive-compulsive disorder is a common mental illness that significantly affects a person's quality of life. It is associated with increased social, familial, personal, and professional impairment. More research is needed in this important therapeutic area. The primary focus of this research was to investigate the cognitive dimensions of patients, particularly those suffering from obsessive-compulsive disorder (OCD).

By exploring the intricate relationship between cognitive inefficiencies and OCD, this study aims to shed light on how distorted thinking patterns can lead to the development and continuation of obsessive thoughts and compulsive behaviors. Ultimately, a better understanding of these cognitive aspects may pave the way for more effective therapeutic strategies, helping individuals manage their symptoms and improve their quality of life.

Furthermore, the current study assumed that targeted interventions designed to improve cognitive abilities could lead to meaningful and long-lasting reductions in the severity of symptoms associated with OCD. Additionally, the goal of this study was to investigate the role of thought-action fusion in maintaining symptoms of OCD. This study also aims to explore how TAF influences the effectiveness of therapeutic interventions.

There are several issues and challenges associated with the administration of CBT among patients of OCD in Pakistan (Naeem et al. 2010). Considering that a notable proportion of patients do not achieve full recovery through Cognitive Behavioral Therapy (CBT) and that relapse rates can range from 0 to 50% (Simpson et al., 2005). It is crucial to investigate alternative treatments for patients who do not respond to Cognitive Behavioral Therapy (CBT). This study aims to examine the effectiveness of third-wave therapies in treating Obsessive-Compulsive Disorder (OCD).

Third-wave therapy (ACT), treats cognition in a different way than CBT, having a different theoretical underpinning. ACT emphasizes the importance of mindfulness practices, encouraging individuals to remain present and engaged while facing situations that may trigger these thoughts (Hofmann & Asmundson, 2008). The primary goal of this study was to provide therapeutic exposure to individuals diagnosed with obsessive-compulsive disorder (OCD), encouraging them to acknowledge and accept their intrusive thoughts and emotions without judgment. This approach aimed to cultivate a heightened sense of psychological flexibility, which is essential for coping with distressing thoughts. By fostering this acceptance, the study sought to reduce the phenomenon of thought-action fusion, where individuals struggle to distinguish between their thoughts and actions. Ultimately, the intent was to enhance the overall treatment outcomes for patients suffering from OCD, paving the way for a more effective journey toward recovery.

Objective

1. To assess the efficacy of cognitive behavioral therapy.
2. To assess the efficacy of acceptance and commitment therapy.
3. To identify and evaluate the relationship between the amount of change in OCD symptoms and thought-action fusion after the administration of CBT and ACT.

Hypotheses

1. The patient suffering from OCD will score high on the thought-action fusion questionnaire at the pre-test as compared to the post-test.
2. The patients of OCD in group I and group II will report significantly different scores on thought-action fusion at the post-test.

Method

Sample

The sample consisted of male and female participants aged 18 to 45. Data were collected using purposive sampling from government hospitals, private psychiatric hospitals, and the Department of Psychology at public sector universities in Peshawar. Participants were selected based on symptoms that met the diagnostic criteria for obsessive-compulsive disorder (OCD) as outlined in the DSM-5. The study included a total of 60 patients diagnosed with OCD ($n = 60$).

Sample size calculations were performed using the G Power calculator, based on the observed differences between acceptance and commitment therapy and cognitive behavioral therapy, as reported by Arch et al. (2008). The required sample size was determined using the following formula: $n = [(Z\alpha/2 + Z\beta)^2 \times \{2(\sigma)^2\}]/d^2$,

With a significance level of 5% and a statistical power of 80%. According to this formula, the necessary sample size for each group was calculated to be 26, leading to a total requirement of 52 samples. Considering a potential drop-out rate of 15%, a total of 60 samples were needed, with 30 participants in each group.

Inclusion criteria

Age (18-45), diagnosed by a clinical psychologist or psychiatrist based on DSM-5 diagnostic criteria, as suffering from OCD, without any comorbidity at the time of participation in the research study, with a shorter duration of time. The participants of the study should not have initiated any medication or psychotherapy from elsewhere at the time of joining the research study.

Exclusion criteria

Age less than 18 years and above 45 years, diagnosis of co-morbid psychiatric disorder at the time of participation in the study, have initiated medication and psychotherapy from elsewhere.

Instruments

The following measuring instrument will be used to collect the data for predicting as well as outcome variables in the study.

Consent form

A comprehensive consent form has been developed that outlines key aspects such as confidentiality, the objectives of the research study, and the specific treatment procedures that participants will undergo. This form ensures that all participants are fully informed about the purpose and nature of the research before giving their consent.

Demographic Data Sheet

A demographic data sheet was utilized to collect important information about the participants.

Yale-Brown Obsessive Compulsive Scale (Y-BOCS)

Obsessive-compulsive disorder symptom severity was assessed using the Y-BOCS, developed by Goodman et al. (1989). This self-report measure evaluates symptom severity before, during, and after treatment, comprising two parts: a Symptom Checklist and a severity scale with 10 items rated on a 4-point scale. Items 1-5 assess obsessions, and 6-10 assess compulsions across five dimensions: distress, time spent, resistance, interference, and control. Total scores range from 0-40, with a cut-off score of 9 for distinguishing healthy individuals from OCD patients (Esfahani, 2012). The scale has a Cronbach's alpha coefficient of 0.89 (Taylor, 1998).

Thought Action Fusion Scale-Revised

The Shafran et al. (1996) self-report assessment, known as the Thought Action Fusion Scale-Revised (TAFS-R), consists of 19 items assessed on a 5-point scale, with 0 denoting extremely disagreeable and 4 denoting extremely acceptable. After that, a final score (interval: 0-76) is determined. These goods have two categories: TAF-M (12 items) and TAF-L (7 items). TAF-LS (3 items) and TAF-LO (4 items) are further subcategories of TAF-L. Higher TAF scores suggest a greater inclination for TAF-like cognitions (Shafran et al., 1996). All three subscales have shown strong reliability, with Cronbach's alphas ranging from 0.85 to 0.96 (Shafran et al., 1996).

Procedure

The research was conducted in three phases. In the first phase, the researcher approached the government and private hospitals' psychiatry departments, independently practicing clinical psychologists and psychiatrists. Additionally, permission was sought from the departments of psychology of government universities of Peshawar and requests for referrals of OCD patients were

made. Rapport was established and the aim of the research study was briefly explained to all patients, who signed a consent form before joining the research study. All measures of the study were administered at the pre-treatment baseline. The Y-BOCS was used to compute the severity level of the symptoms of OCD at pre-intervention.

The second phase of the study was comprised of psycho therapeutic sessions with the patients. The therapeutic process was further divided into three sub-phases, in an initial sub-phase insight regarding the problem was created through the administration of different strategies, aimed at helping the patients to develop an understanding of why they face difficulty in controlling inner experiences. In the middle phase of treatment, sessions were spent on coaching the patients on therapeutic strategies to achieve the treatment goal. Each session of CBT and ACT consisted of a home task and feedback from the previous week, any difficulty the patient faced in the administration of interventions in their daily life was discussed. Subsequently, a new technique was presented and a home task was assigned and the patient agreed upon the behavioral exercises in the immediate environment to bring long-lasting change not only at the cognitive level but also at the behavioral level. The sessions in the final sub-phase were structured regarding engaging the client in a larger pattern of valued and meaningful actions. The client was instructed to maintain contact with the therapeutic interventions and skills acquired during the psychotherapy, regardless of any future internal or external events.

In the third phase of the study after the successful completion of psycho therapeutic sessions, the client was re-assessed (post-treatment) on all the measures that were once administered at the baseline (pre-treatment).

Ethical consideration

The procedure of the current study adhered to all guidelines provided by the Advanced Studies and Research Board (ASRB) of the University Of Peshawar, Pakistan. Formal permission was obtained for the collection of data from authorities of the relevant institution of Peshawar, Pakistan. The participants of the study were informed through written consent and in verbal form about the rationale of the current study. All of the participants were ensured regarding confidentiality and their authenticity during their participation in the study. Only the basic demographic data rather than the identifying information was collected on any subject. The written consent form was signed and it was told to the participants that they have all the rights to withdraw from the research study on any step. The research tools of the current study administered in a professional setting where the privacy and confidentiality of the participants were ensured.

Results

Table 1 Descriptive Statistics and Alpha Reliability Coefficients of Study Scales (N=57)

Scales	Items	Mean	Std. Deviation	A	Score range		Skewness	Kurtosis
					Potential	Actual		
YBOC	10	27.37	5.778	.759	0-40	16-38	-.161	-.697
TAFS-R	19	54.19	19.608	.958	19-95	19-86	-.027	-1.119

Note: YBOCS= Yale-Brown Obsessive Compulsive Scale; TAFS-R= Thought Action Fusion Scale-Revised

Table 2 Mean Comparison between Pre and Post-OCD on Thought Action Fusion Scale Revised (N=27)

Variable	Pre (N=27)		Post (N=27)		t(26)	P	Cohen's d
	Mean	SD	Mean	SD			
Thought Action Fusion Scale	55.30	20.91	39.22	19.15	7.247	.001	0.80

Table 2 shows the outcomes of a paired t-test that compares the pre-test and post-test scores on the Thought Action Fusion Scale Revised (TAFS-R) among a group of patients diagnosed with obsessive-compulsive disorder (OCD). The TAFS-R is designed to measure the degree to which

individuals believe their thoughts can influence their actions or are morally equivalent to actions. The t-test revealed a significant difference between the pre-test and post-test scores on the TAFS-R ($t(26) = 7.297, p = .001$). The average score on the TAFS-R decreased notably from 55.30 in the pre-test to 39.22 in the post-test. This finding underscores the effectiveness of cognitive-behavioral therapy (CBT) in reducing thought-action fusion among the participants. Additionally, with a Cohen's d effect size of 0.80, the results suggest a large effect, indicating a substantial difference between the pre-test and post-test scores.

Table 3 Mean Comparison between Pre and Post-OCD on Thought Action Fusion Revised (N=30)

Variable	Pre (N=30)		Post (N=30)		t(56)	P	Cohen's d
	Mean	SD	Mean	SD			
Thought Action Fusion Scale	53.20	18.65	40.97	15.20	4.947	.001	0.71

Table 3 presents the results of a paired t-test comparing the pre-test and post-test scores on the Thought Action Fusion Scale Revised (TAF-R) for a group of patients with OCD. The TAFS-R measures the extent to which individuals believe that thoughts can determine actions or are morally equivalent to actions. The t-test revealed a significant difference between the pre-test and post-test scores on the TAFS-R ($t(29) = 4.947, p = .001$). The mean TAFS-R score decreased significantly from the pre-test (53.20) to the post-test (15.20). This proposes that the ACT effectively reduced thought-action fusion among the participants. Cohen's d-effect size of 0.71 indicates a large effect. This suggests that the observed difference between pre-test and post-test scores is substantial.

Table 4 Mean Comparison between ACT and CBT on Thought Action Fusion Scale-Revised (N=57)

Variable	ACT (N=30)		CBT (N=27)		t(55)	P	Cohen's d
	M	SD	M	SD			
Thought action fusion	34.67	15.49	46.15	16.99	-2.669	.010	0.71

Table 4 shows the findings of an independent t-test that compared the Thought Action Fusion scale Revised (TAFS-R) scores of the two groups, CBT and ACT. On the TAFS-R, the t-test showed a significant difference between the two groups ($t(55) = -2.669, p = .010$). In comparison to the ACT group (M = 34.67, SD = 15.49), the CBT group's mean TAFS-R score was significantly higher (M = 46.15, SD = 16.99). Cohen's d-effect size of 0.71 indicates a large-sized effect. This suggests that the observed difference between the two groups is moderately strong.

Table 5 Mean Comparison between ACT and CBT on Thought Action Fusion Revised Subscales (N=57)

Variable	ACT (N=30)		CBT (N=27)		t(55)	p	Cohen's d
	M	SD	M	SD			
Moral thought-action fusion	23.37	9.32	32.22	14.79	-2.732	.008	0.74
Likelihood of other thought	6.13	2.40	8.37	3.67	-2.748	.008	0.74
Likelihood of self-thought	4.53	1.91	6.33	2.80	-2.861	.006	0.75

Table 5 represents the Independent samples t-tests conducted to compare ACT and CBT groups on Thought-Action Fusion Revised subscales. Results revealed significant differences between the

groups on Moral thought-action fusion ($p = .008$, Cohen's $d = 0.74$), Likelihood of other thought ($p = .008$, Cohen's $d = 0.74$), and Likelihood of self-thought ($p = .006$, Cohen's $d = 0.75$). Participants in the ACT group reported significantly higher scores on these subscales, suggesting that ACT may be more effective in addressing these Thought-Action Fusion patterns.

Discussion

The current study compared the effectiveness of cognitive behavioral therapy (CBT) with acceptance and commitment therapy (ACT) for patients with obsessive-compulsive disorder (OCD). This paper aims to clarify the empirical basis for using ACT with OCD patients in Pakistan, providing clinical psychologists with a better understanding of this treatment approach and its administration. Additionally, by enhancing patients' psychological flexibility throughout treatment, this paper seeks to implement the principles of third-wave therapy, helping individuals change how they respond to the distressing aspects of their memories, behaviors, thoughts, and physical sensations.

The current study hypothesized that patients of OCD would score higher on the measure of thought-action fusion on the pre-test as compared to the post-test. The present study yielded consistent results with the previous research studies that CBT and ACT significantly improved thought-action fusion from pre-test to post-test. Acceptance and Commitment Therapy (ACT) and Cognitive Behavioral Therapy (CBT) have shifted their focus, targeting processes that differ from their original design. In this study, it was observed that ACT not only demonstrates improvements in the psychological processes for which it was originally intended but also enhances thought-action fusion, where individuals confuse their thoughts with actions. This shift highlights the versatility of ACT in addressing a broader range of cognitive challenges.

The client with OCD perceived the obsession, images, and impulses as real due to thought-action fusion. Clients who underwent ACT were briefed regarding the fusion of cognitive phenomena. In the current study cognitive defusion and mindfulness were used to assist clients in defusing or detach their self from the symptoms and therefore observing themselves in light of contextual factors, a similar treatment approach used by Wells (2009). This strategy improved the thought-action fusion among OCD clients from pre-test to post-test which further significantly reduced the symptoms of OCD. Thus the ACT played a significant role in the improvement of thought-action fusion among OCD clients.

The exposure to traditional therapies shares some similarities with exposure from the ACT perspective to modify dysfunctional cognitions related to the perceived importance of and the need to control thoughts, such as thought-action fusion or the significance of thought control (fisher & wells, 2004). In the current study exposure is used from the ACT perspective, this approach to exposure differs in that it does not explicitly concentrate on challenging and altering irrational beliefs through Socratic questioning as done in traditional therapies. It also takes a more metacognitive approach, where defusion affects general thinking rather than being limited to specifically targeted thoughts while traditional therapies focus heavily on altering cognitive distortions through structured questioning. This distinction highlights a fundamental shift in therapeutic goals and methods within the realm of psychological treatment (fisher & wells, 2004).

The patients who underwent CBT deal with brief exposure and response prevention experiments to modify the dysfunctional beliefs regarding thought-action fusion. The current study's finding aligns with the previous study (Wells, 2000) that thought-action fusion is improved through behavioral experiments. In the current study, the client also dealt with cognitive restructuring when targeting the thought-action fusion of the clients. The clients are challenged, disputed, and further assisted to provide rational alternatives to change their dysfunctional beliefs into rational beliefs. This helped the client to overcome the cognitive bias of thought-action fusion among OCD from pre-test to post-test which helped in the overall reduction of OCD among clients.

The patients with OCD in groups I and II will report significantly different scores on thought-action fusion at the post-test. The findings from this analysis provide evidence to support the hypothesis that patients with OCD in Group I (CBT) will report higher scores on the TAFS compared to those in

Group II (ACT). This suggests that ACT may be a more effective intervention for addressing thought-action fusion in individuals with OCD.

The results of the present study revealed that the thought-action fusion is improved in response to both interventions. The ACT and CBT significantly deal with thought-action fusion but the ACT demonstrated greater efficacy in the improvement of thought-action fusion when compared with CBT. The thought-action fusion is the source of dysfunctional metacognitive beliefs and distress which tend to maintain the state of illness in OCD and many other disorders. Cognitive defusion was applied in sessions with clients suffering from OCD to help them detach their mental events from reality. This current study aligns with previous research conducted by Gupta et al. (2021), which indicates that cognitive defusion aims to change how individuals relate to their mental events, such as rumination, intrusive thoughts, obsessions, and private experiences by perceiving them as less real. The goal was to help clients separate their sense of self from these thoughts, promoting mindfulness and presence in the moment. Therefore, Acceptance and Commitment Therapy (ACT) assists clients in improving their obsessive beliefs through the improvement of thought-action fusion by implementing cognitive defusion. This approach encourages a more realistic relationship with their thoughts, in contrast to Cognitive Behavioral Therapy (CBT), which directly targets, challenges, and disputes obsessive beliefs to develop rational alternatives.

The previous study further approved the hypothesis of the current study which was conducted by Conelea and Freeman (2015) that the treatment response of the client toward the ACT is increased because the ACT gives acceptance to obsessional thought as it is rather than focusing on the irrationality of the thought through challenging, confronting, and disputing as central to CBT. Concerning defusion patients de-fuse from their obsessional stimuli when they use exposure to practice client views the obsessions and anxiety as streams of words or passing bodily sensations rather than facts or danger.

The current study indicates that thought-action fusion (TAF) is improved in response to cognitive-behavioral therapy (CBT), although the improvement is less significant compared to acceptance and commitment therapy (ACT). Previous studies have supported this finding by categorizing TAF as a cognitive bias that worsens dysfunctional beliefs about the significance of thoughts, which subsequently leads to recurrent obsessions. Cognitive restructuring techniques were employed to provide a rational alternative to this cognitive bias, aiming to enhance TAF and reduce the overall severity of obsessive-compulsive disorder (OCD) (Frost & Steketee, 2002; OCCWG, 1997; Shafran & Rachman, 2004).

The findings of the current study are in line with the previous finding that exposure is also used from ACT perspective where the goal is to shift the attention of the clients from illness to action, focusing the client on valuable action which defuses the fusion of invalid thoughts and action and assists the client to perform valued and committed action which indirectly invalidate the TAF and able client to think rationally as opposed to CBT where the TAF is directly targeted. It improved the efficacy of the ACT in comparison with CBT in the treatment of TAF. Invalid thoughts, those that are distorted can be particularly debilitating. The ACT focuses on defusing these thoughts through various techniques. Metaphors, such as "the passenger on the bus," were effectively employed with patients during experiential exercises designed to help them recognize their thoughts (Gupta et al., 2021). These exercises were used to empower patients to acknowledge their thoughts without letting those thoughts control their actions.

Conclusion

In the current study, patients with obsessive-compulsive disorder were assessed for the efficacy of cognitive behavioral therapy against acceptance and commitment therapy. The findings from the current study indicate that both CBT and ACT have proven to significantly enhance the cognitive aspect associated with OCD. Moreover, these therapeutic approaches have demonstrated a noteworthy reduction in the overall severity of OCD symptoms among clients. The present study explored the differences in which each treatment reduced OCD symptoms and tested the hypotheses

based on the difference between ACT and CBT on improving cognitive factors measures through thought-action fusion. The result of the current study revealed that both interventions showed significant improvement from pre-test to post-test. The intervention did not show large differences in outcomes at the post-test but mild to moderate significant differences were found.

Clinical Implications

- The Clinical implications of this study were significant. Both interventions, ACT and CBT showed significant efficacy in the treatment of OCD.
- ACT helps individuals confront and become less avoidant of distressing cues and the contexts linked to those cues. This makes it a potentially valuable standalone approach or a viable alternative to other traditional treatments.
- Treatment gains were achieved without in-session exposure exercises and through the use of somewhat different psychological processes that are usually targeted in the treatment of OCD. Behavioral commitments outside of sessions placed clients in contact with feared stimuli; however, these situations were to be opportunities to practice mindfulness, defusion, and acceptance, and to reduce OCD.
- The shorter duration of psychotherapy as an ACT significantly improves the symptoms of OCD making it a more reliable alternative to CBT to reduce the economic burden of the clients in underdeveloped countries, like Pakistan.

Limitations and suggestions

The present study has a significant contribution but there are some limitations as well. First the study's sample largely consisted of educated clients, restricting the generalizability of the findings to the illiterate. Secondly, an equal number of treatment sessions devoted to ACT and CBT may have masked significantly large treatment differences. The long-term format of psychotherapy, including maintenance sessions or regular follow-up sessions was not delivered, hindering the expected additional gains that were otherwise can be achieved.

The current study further suggested that clinical outcomes could be further enhanced by distinguishing between the common and distinct mechanisms of therapeutic change. The applicability of the findings of the current study would be more improved by conducting a randomized control trial study, to compare CBT and ACT with ACT+CBT or a combination of both would provide a valuable experimental and clinical inquiry. Further, the long-term monitoring of these individuals is required to ascertain whether the clinical improvements are sustained over time.

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