Original Article

The efficacy of Trans diagnostic Cognitive Behavior therapy on reducing symptoms severity of Obsessive Compulsive Disorder with co-occurring anxiety and mood disorders

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Abstract

Background: The aim of this study was to elucidate efficacy of transdiagnostic cognitive behavior therapy based on unified protocol (UP) for reducing symptoms severity of obsessive-compulsive disorder (OCD) with co-occurring anxiety and unipolar mood disorders.

Methods: From the thirty patients who participated to treatment, twenty-four participants were randomly assigned to receive either immediate or delayed treatment. All participants were assessed using both clinician-rated and self-report measures. The immediate or intervention group received 20 sessions taking one hour TCBT intervention based on UP but delayed group did not receive any intervention. After gathering the data from two groups, the UP was implemented for delayed or control group. Three regular assessments administrated that consisted of pretest, post-test, and a one-month follow-up (FU).

Results: The UP afforded a very strong effect on diagnostic severity, obsessive-compulsive frequency of symptoms, dimensions and total functioning for principal diagnoses from pretreatment to FU. Effect size statistics for assessing treatment gains showed large effects (of 1.49 to 2.64) for heterogonous comorbid disorders that were retained on follow-up. The differences in the proportion of individual achieving responders and high end-state function (HESF) between comorbid diagnoses at post treatment and FU were not statistically significant.

Conclusion: Results from this study provide additional evidence for the efficacy of the UP in the treatment of OCD with co-occurring anxiety and unipolar depressive disorders, and provide additional support for a transdiagnostic approach to the treatment of emotional disorders.

Declaration of Interest: None.

Key words: TCBT, UP, OCD, Co-Occurrence.

Introduction

Transdiagnostic cognitive behavior therapy (TCBT) for anxiety disorders has been devoting an increased attention over the past decade with empirical and theoretical evidences (1-5). This treatment has designed for eliminating constraints and challenges of train and delivers multiple cognitive behavior therapy (CBT) programs for specific - diagnoses (6). Several investigators (4-5,7-8) have developed TCBT programs in order to minimize training demands and maximize treatment accessibility for individuals with anxiety disorders. More studies in the field of anxiety disorders show that these disorders have similarities on diagnosis (9-10). Symptom-overlap tends to be the norm, and several authors have suggested the existence of shared underlying pathology across the emotional disorders (11-14).

Furthermore, rates of co-occurring emotional disorders are extremely high, with comorbidity among the anxiety and depressive disorders reaching approximately 55% (13), which is the main challenge in CBT and pharmacotherapy. Transdiagnostic treatments are delineated to focus on the commonalities among the anxiety and mood disorders. Recent findings also have suggested that TCBT can be beneficial for clients with co-occurring anxiety and depressive disorders (4-8) and complex anxiety diagnoses such as anxiety disorder not otherwise specified (15). Other motive to inquire TCBT protocols and manuals are related to practical issues, meanings this treatment often increase accessibility in clinical settings.

Evidences for TCBT efficacy have confirmed in some review and meta-analysis studies (15-17), but in literature, efficacy of this treatment is slight either in Iran or another countries (18-20). Investigating in literature show problems in methodological designs in these studies, for example, in assigning emotional disorders for accomplishing intervention, the disorders such as obsessive-compulsive disorder (OCD) are small (4-5,8). In current meta-analysis (16-17), among twelve received studies, OCD as either principal or comorbid disorder had been encompassed only on three studies. Furthermore, in three studies only 20% of samples were OCD patients. Indeed, this indicates TCBT evidences for OCD are little, neither as principal and secondary co-occurring diagnosis. Also, majority of studies in TCBT didn't have follow-up groups (18-19), and in some trails, it hasn't been utilized suitable instrument (18-20). In literature, for monitoring amelioration course didn't have accomplished regular assessments exceptionally in pre and post treatment (18-20).

Adding a new result to literature, the main purpose of this paper is to illustrate efficacy of TCBT on symptoms severity of OCD and co-occurrence disorders. Another aim of current article is to elucidate and eliminate some of the methodological issues.

Methods

The samples of the study were recruited from four psychological and psychiatric centers in Zanjan, Iran. These centers included one psychiatric private center, and three psychological centers consisted of Behzisiti Telephone Line 1480 and 123, Roshd, Atie, and Zendegi. Before starting the study, all psychologists and psychiatrists from these centers had been informed about methods and purposes of the study. Thirty patients referred to TCBT and delayed intervention by these centers. Initial assessments performed in April 2015. Six participants didn't qualify. Therefore, twenty-four participants randomized to immediate and delayed groups. The immediate or intervention group received 20 sessions taking one hour TCBT intervention based on unified protocol (21-22) but delayed group didn't receive any intervention. After gathering the data, the UP, TCBT based intervention, has implemented for delayed or control group. For both groups three regular assessments administrated that consisted pretest in April, posttest in October, and follow-up in November 2015. To elucidate therapeutic efficacy before starting the interceptive exposure, we administrated mid-test for immediate group in August after the 10 session's intervention. The follow-up assessments conducting in the study were identical to routine clinical assessments administered at intake. The university's institutional review board approved all procedures and all participants signed a written voluntary informed consent form. The study was drawn based on control-group design with random assignment. Two specialized master of clinical psychology who had trained to administrate the instruments, accomplished the assessments in phases of mid-test, posttest and follow-up. The TCBT interventional sessions based on UP accomplished by the first author trained Ph.D. student of clinical psychology in SBMU, Tehran, Iran.

A therapist provided treatment under supervision of two advisor associate professors.

Qualified criteria for the sample included a principal diagnosis of OCD with co-occurrence of emotional disorders (another anxiety and unipolar mood disorders), an age requirement of 18 years or more, and fluency in Persian and confirm the informed consent. Exclusion criteria included the presence of any clinical conditions requiring immediate or simultaneous treatment (e.g., current DSM-IV diagnosis of bipolar disorder, schizophrenia, schizoaffective disorder, or organic mental disorder, current suicidal risk, or recent history of substance abuse).

Six individuals (three in immediate and three in delayed condition) were taking psychotropic medications at the time of randomization. All individuals were stable on the same dose for at least 3 months prior to enrolling in the study as a condition for participation in the study, and all agreed to maintain these dosages and medications for the duration of the study. We also excluded any individual who had already received CBT and another psychological therapy within the past 3 years.

From the thirty patients who participated in treatment, six patients were omitted from the sample because of having the exclusion criteria. Twenty four participants were randomized to receive either immediate (twelve patients) or delayed treatment (twelve patients), all of immediate treatment group (experimental group) were identified as treatment completers and also both immediate and delayed group completed a follow-up assessment in one month post treatment.

The sample included twenty females (nine from immediate and eleven from delayed group) and four males (three from immediate and one from delayed group). Comorbid anxiety disorders included generalized anxiety disorder (GAD;n=8), social anxiety disorder (SOC; n = 7), major depressive disorder (MDD; n=7) and anxiety disorder NOS (Anx NOS; n=2). In immediate or intervention group, for any of above comorbid diagnosis, patients number included three, four, three, and two for GAD, SOC, MDD, and Anx Nos, respectively.

All participants were assessed using both clinician-rated and self-report measures. Participants received a structured diagnostic assessment at intake, the Anxiety Disorders Interview Schedule for DSM-IV (ADIS-IV) including Clinician Severity Ratings for each diagnosis (CSR) and completed a battery of self-report questionnaires that is presented below.

Anxiety Disorders Interview Schedule for DSM-IV–Lifetime Version (ADIS-IV-L). The ADIS-IV-L focuses on the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) (23,24) diagnoses of anxiety and mood disorders, somatoform disorders, and substance and alcohol use disorders. Diagnoses are assigned a clinical severity rating (CSR) on a scale ranging 0 (no symptoms) to 8 (extremely severe symptoms), with a score of 4 (definitely disturbing/disabling) as the clinical threshold for DSM-IV diagnostic criteria. The CSR rating was made at pre, post and follow-up treatment assessment points. Norton and Barrera (25) reported high inter rater reliability and diagnostic agreement of ADIS-IV-L (86% agreement, $\kappa = 0.759$, $p < .001$).

The Obsessive-Compulsive Inventory (OCI) is a self-report scale for measuring OC symptoms (26). This scale has 42 items, each of which is rated on a five-point Likert scale corresponding to frequency of symptoms in the past month and severity of distress (e.g.,0 = "not at all distressed" to4="extremely distressed"). Foa et al.(27) reported good to excellent internal consistency for both the full scale and the subscales for patients with OCD, and found that the scale had good to excellent test-retest reliability for OCD patients across two weeks.

Dimensional Obsessive-Compulsive Scale (DOCS). The DOCS is a 20-item self-report measure that assesses the severity of four consistently replicated OCD symptom dimensions, which correspond to four DOCS subscales: contamination, responsibility for harm and mistakes, symmetry/ordering, and unacceptable thoughts. The DOCS converges well with other measures of OC symptoms and has excellent psychometric properties (28).

Beck Depression Inventory-II (BDI-II). The BDI-II is the most widely used self-report measure to assess current depressive symptoms. It contains 21 items focusing on the levels of depressive symptoms over the past 2 weeks (29). It is a well-established measure with excellent reliability and validity for both clinical and non-clinical samples (30).

Beck Anxiety Inventory (BAI). The BAI was included as a general measure of anxiety related symptoms across the disorders. The BAI also contains 21 items scored in a similar way and focuses on common symptoms that are more unique to anxiety, such as somatic and certain cognitive symptoms (31). Adequate internal consistency and validity have been reported for both clinical and non-clinical participants (32).

Penn State Worry Questionnaire (PSWQ). The PSWQ was included to assess symptoms related to GAD, it is a 16-item self-report questionnaire designed to assess the tendency to worry as well as intensity and excessiveness of worry (33). The PSWQ has demonstrated good internal consistency and test-retest reliability (33).

The Liebowitz Social Anxiety Scale (LSAS) is a 24-item measure of symptoms of social anxiety that is used in its self-report version here. The scale can be separately scored for fear and avoidance of various social situations. The LSAS has demonstrated good reliability across studies, with Cronbach's alpha ranging from 0.81 to 0.92 for fear subscales, from 0.83 to 0.92 for avoidance subscales, and 0.96 for total score (34-35).

Work and Social Adjustment Scale (WSAS). The WSAS is a 5-item measure subjective interference in various domains of living, and has been successfully used in previous studies (35).

Treatment during the study consisted of a maximum of 20, 1-hour individual therapy sessions. The UP is composed of five core treatment modules that were designed to target key aspects of emotional processing and regulation of emotional experiences: (a) increasing present focused emotion awareness, (b) increasing cognitive flexibility, (c) identifying and preventing patterns of emotion avoidance and maladaptive emotion-driven behaviors (EDBs), (d) increasing awareness and tolerance of emotion-related physical sensations, and (e) interceptive and situation-based emotion focused exposure. The five core modules are preceded by a module focusing on enhancing motivation and readiness for change and treatment engagement, as well as an introductory module educating patients on the nature of emotions and providing a framework for understanding their emotional experiences. A final module consists of reviewing progress over treatment and developing relapse prevention strategies (4). All treatment completers received all treatment modules.

A series of repeated measures univariate analyses of variance (ANOVAs) were conducted to determine outcome of treatment with the UP in posttest and follow up. Mean differences in outcome were used to calculate standardized effect size estimates for pre-treatment and FU scores. To facilitate comparison with outcomes reported in the study of the UP (1), Hedges' g was utilized to calculate effect size estimates. Effect size estimates were interpreted conservatively, with 0.2, 0.5, and 0.8 reflecting small, medium, and large effects, respectively (1). To determine the clinical significance of the effects of the UP at FU, we utilized an adaption of algorithms reported in other similar trials of CBT and UP (1-5) for

emotional disorders in order to determine the proportion of participants that achieved treatment responder status and high end-state functioning (HESF) as previous evaluations of the UP. Participants were considered to meet responder status if they achieved a 30% or greater reduction on two of the following three measures: diagnostic clinical severity (ADIS-IV CSR), clinician assessed functional impairment (WSAS), or the diagnosis specific measure for the principal diagnosis (OCI and DOCS). Participants were considered to have achieved HESF if they no longer met diagnostic criteria for their principal diagnosis (i.e., ADIS-IV CSR b 4), and if their score on either the clinician-rated measure of impairment or the diagnosis-specific measure for the principal diagnosis fell in the subclinical range. Finally, maintenance of treatment gains was explored using within treatment effect size estimates (standardized gains, ESsg) for the primary outcome variables for post treatment and FU. We also calculated the percentage of participants who retained responder or HESF statuses across each time point.

Results

Group comparisons.

In the first comparison, there were no significant differences between groups in randomization status based on demographic variables. Chi-square statistics for independency of variables showed $X^2(1,24)=0.30$, p=0.58; $X^2(1,24)=0.67$, p=0.43; $X^2(3,24)=2.78$, p=0.42; $X^2(7,24)=13.00$, p=0.07; and $X^2(5,24)=9.10$, p=0.10, for gender, marital status, comorbidity, duration of principal diagnosis and duration of comorbid diagnosis, respectively. In second comparison, the differences between two groups in posttest dependent variables have been analyzed. There were no significant differences in clinical severity rating $(F(1,23)= 0.16, p=0.68)$, OCD scores $(F(1,23)= 1.06, p=0.31)$, OCD dimensions $(F(1,23)= 0.43, p=0.51)$, and work and social adjustment $(F(1,23)= 0.054, p=0.81)$, as dependent variables.

Efficacy and clinical significance .

Trans diagnostic CBT based on UP afforded a very strong effect on diagnostic severity for

principal diagnoses (ADIS-IV CSR) from pretreatment to FU ($F_{2,21}$= 30.44, p<0.000, Hedges' g=2.39). Investigation of treatment effects on OC frequency of symptoms and OC dimensions also showed very high significant effects from pretreatment to FU ($F_{2,21}$= 30.85, p<0.000, Hedges' g=1.77, for OC amount and $F_{2,21}$= 17.08, p<0.000, Hedges' g=1.81 for OC

dimensions). Again, analysis of treatment effect on self-reported impairment in work, home management, social life and family relationship revealed large effect of time ($F_{2,21}$= 30.27, p<0.000, Hedges' g=2.36). Descriptive statistic and effect size estimates from pretreatment to FU are presented in table 1.

Table 1. Descriptive statistics and effect sizes for outcome variables from pretest to follow-up for principal diagnosis (N=12).

Measure	Pre	Mid	Post	Follow	Pre-Post	Pre-Follow	Post-ollow
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	ESsg	ESsg	ESsg
CSR	5.33 (0.49)	--------	2.75 (1.54)	2.58 (1.56)	2.26	2.39	0.11
OCI	81.16 (36.55)	48.50 (35.83)	27.00 (24.13)	26.66 (23.34)	1.74	1.77	0.01
DOCS	37.75 (16.22)	21.58 (12.73)	13.91 (8.69)	14.00 (8.96)	1.83	1.81	-0.01
WSAS	23.25 (3.07)	---------	9.16 (7.88)	9.08 (7.92)	2.37	2.36	0.01

Note: Pre=pretest; Mid=mid-test; Post=posttest; CSR=clinical severity rating; OCI=obsessive compulsive inventory; DOCS=dimensional obsessive compulsive scale; WSAS=work and social adjustment scale; ESsg=standardized gain

Maintenance of treatment gains
Effect size estimates suggest that there were only slightly changes in clinical severity of principal diagnoses (CSR), self-reported impairment (WSAS) from post treatment to FU. symptoms (OCI; ESsg=0.01) and dimensions (DOCS; ESsg=-0.01) of OCD evidenced very small increases, respectively (see table 1). With these small changes in FU, scores of all the scales were below the cut points for subclinical ranges.
Specificity of treatment gains
In order to examine the hypothesis that treatment gains with the UP would occur across diagnostic categories, effect size estimates

(ESsg) for secondary diagnosis-specific outcomes were calculated separately among patients with a comorbid diagnosis of GAD (n=3), SOC (n=4), MDD (n=3), and Anx Nos (n=2) at post treatment and FU. As shown in table 2, the effect size estimates for the PSWQ (the diagnosis-specific self-report measure for GAD) ranged from 2.51 (pre to FU) to 2.64 (pre to post). Effect size estimates for diagnosis-specific self-report measures were 1.74 to 1.77 for SOC, 1.49 to 1.68 for MDD, and 1.92 to 1.99 for Anx NOS. In addition, in measures which were assessed MDD and Anx NOS effect size estimates increased from posttreatment to follow-up but The PSWQ and LSAS (diagnosis-specific self-report measure for GAD and SOC, respectively) were the only two measures that did not follow this pattern.

Table 2. Descriptive statistics and effect sizes for outcome variables during follow-up for comorbid diagnoses (N=12).

Measure	N	Pre	Mid	Post	Follow	Pre-Post	Pre-Follow	Post-Follow
		Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	ESsg	ESsg	ESsg
PSWQ	3	71.00 (13.85)	47.66 (14.22)	39.66 (9.50)	40.66 (10.01)	2.64	2.51	-0.10
LSAS	4	99.25 (36.46)	65.00 (42.07)	45.25 (24.47)	44.50 (25.33)	1.77	1.74	-0.10
BDI-II	3	30.33 (11.50)	18.00 (14.42)	13.66 (10.78)	13.00 (8.88)	1.49	1.68	0.06
BAI	2	36.00 (19.79)	11.50 (3.53)	9.00 (0.00)	8.00 (1.41)	1.92	1.99	1.01

Note: Pre=pretest; Mid=mid-test; Post=posttest; PSWQ=Penn State Worry Questionnaire; LSAS=The Liebowitz Social Anxiety Scale; BDI-II=Beck Depression Inventory-II; BAI=Beck Anxiety Inventory; ESsg=standardized gain

Clinical significance across principal and comorbid diagnoses

In order to examine the applicability and clinical significance of treatment gains with the UP across diagnostic categories, the proportion of treatment initiators who achieved treatment responder status, and high-end-state functioning at posttreatment and follow-up across principal and comorbid diagnoses are also presented in table 3.

Chi-square tests were conducted to evaluate whether the response rates varied significantly across the four comorbid disorders included in this study (GAD, SOC, MDD, Anx NOS). The differences in the proportion of individual achieving responders and HES at posttreatment between comorbid diagnoses of GAD (66.6%), SOC (75%), MDD (6.66%) and Anx NOS (100%) were not statistically significant, X^2 (df=6)= 8.00, p= 0.23. Also, there weren't more variability in proportion of individual achieving responders and HESF status in FU between comorbid diagnoses. Chi-square tests showed no differences in two response status in FU, X^2 (df=3)=4.00, p=0.26, and X^2(df=6)= 8.00, p=0.23, for responders and HESF, respectively. Although these comparisons are limited by the small sample sizes of each diagnostic category, they provide preliminary evidence that the UP has equivalent effects in terms of clinical significance across the four-comorbid emotional disorders examined in this trial.

These results indicate that the UP had robust effects across both principal and comorbid conditions.

Table 3. Proportion achieving responder status and high end-state functioning status on principal, and comorbid disorders

Diagnosis	Post-Tx			Follow-Up-Tx		
	N	% Treatment Responders	% HES Fx	N	% Treatment Responders	% HES Fx
Principal Only	12	75 %	66.6 %	12	75 %	75 %
Comorbid Diag.						
GAD	3	66.6 %	66.6 %	3	66.6 %	66.6 %
SOC	4	75 %	75 %	4	100 %	75 %
MDD	3	66.6 %	66.6 %	3	66.6 %	66.6 %
Anx NOS	2	100 %	100 %	2	100 %	100 %

Note: HESF= high-end-state functioning GAD = generalized anxiety disorder; SOC = social anxiety disorder, MDD= major depressive disorder; Anx NOS = anxiety disorder not otherwise specified.

Based on table 3 , there is a significance difference in experimental and control group subscales such as positive relationship with others, domination on environment, individual growth, purposefully and self-acceptance and there is no significant difference in autonomy subscale. Partial Eta Squared of intervention is mean in domination on environment (0.588), individual growth (0.429) and self-acceptance (0.464) is mean and Partial Eta Squared of intervention in purposeful in life (0.149) is low, positive relationship with others (0.241)and Partial Eta Squared of intervention in autonomy is lower than mean. Based on table 1, mean of experimental group is significantly higher than control group in positive relationships with others, domination on environment, individual environment, Purposeful in life and Self-acceptance.

Conclusion

The purpose of this study was to further inquire the utility of the UP as a transdiagnostic treatment for emotional disorders by evaluating outcome and maintenance of treatment gains during a month follow up period. Findings show that treatment with the UP result in significant reductions in symptom severity of OCD as principal diagnosis and other comorbid emotional disorders. Effect size at posttreatment in all of measures in principal diagnosis was generally large and this power remained consistently in a one-month follow up. This indicates 100% of participants who qualified as either a responder or as a HESF at follow up retained this status. This findings were consistent with Ellard et al. (4) that have suggested large eta-squared in initial and after protocol revision, respectively,

for CSR (0.70) and another measures such as general depression (0.44), anxiety (0.42) and total functioning (0.36). According to Ellard et al., 73% and 82% of participants in posttreatment, were reached respectively, in responders and HESF. In OCD as principal subgroup, CSR decreased of 6.00 to 2.75 for revised manual in posttest with large eta-squared 0.83 that was compatible with our findings (4).

Also, our data agreed with Farchione et al., (1) for the efficacy at posttreatment. They showed large effect size on CSR (1.39) and other general measures of anxiety disorders (from 0.52 to 1.11) for principal diagnoses.

In literature, there are trials of UP that were suggested continued gains from posttreatment to 6 month follow up (MFU) (1-5, 7,8). For example, more participants in a randomized control trial (RCT) (8) met criteria for responder status and HESF at 6MFU (71% and 64%) than at post-teratment (59% and 52%, respectively). Another study analyses (4) revealed 73% of sample achieved responder status on their principal diagnosis at 6-months posttreatment. Among these, 69% met criteria for high end-state functioning. In OCD subgroup as comorbid disorder, posttest showed 75%, and at follow up 100% for both status (8).

Farchion et al. (1) have reported (at post-treatment) 59% of patients were classified as treatment responders on their principal diagnoses and this amount increased to 71% at follow-up. Similarly, 52% of patients achieved HESF on their principal diagnoses at post-treatment, with 64% achieving HESF at follow-up.

In the current study compatible to previous study (1,4,8), participants who were in responder and HESF status in post-treatment (75% and 66.6%, respectively), not only hold the changes but also HESF status was increased (75% and 75%, respectively). This indicates three of the twelve participants with a clinical principal diagnosis at follow-up were non-responders at posttreatment and preserved a non-responders status throughout follow-up.

Results from the recent study (8) suggested that participants did not come across with further symptom reduction or change in diagnostic status for their principal diagnosis beyond the 6-month assessment point. Overall, treatment gains at 6MFU remained fairly stable up to

approximately 18 months follow-up. Also, this study demonstrated some increases in general depression symptoms, negative affect, and clinician rated interference across life domains from 6MFU to LTFU, but average scores on these measures still remained in the nonclinical to mild range. In our study, it wasn't observed increased scores in depression, social and work functioning inconsistently with above, maybe because naturally essence of short-term follow-up in this study. But Farchion et al. (1,5) suggested decreasing in symptom severity and improvement on total functioning, whereas it was observed slightly increased in measures of anxiety and depression.

Within a diagnostically heterogeneous clinical sample of patients with comorbid diagnoses, over 66% patients of GAD and MDD did not meet diagnostic criteria for any clinical diagnosis at FU, and surprisingly 100% of patients with SOC and Anx NOS reached to completed improvement. In Ellard et al. (4) study, 64% of participants achieved responder status on comorbid disorders, with all of these attaining high end state functioning (or 64% of the total sample). This finding was consistent with our study (for utilizing same algorithm) on comorbid disorders.

In recent study that was accomplished by Bullis et al. (8) over half of participants (53%) didn't meet diagnostic criteria for any clinical diagnosis at long-term follow-up (18 months). The differences of the two studies could be related to time period of follow-up. Although, many of studies that had been utilized UP, have showed deterioration and slightly increased symptoms in some of measures assessed severity of scores in emotional disorders, though, Bullis's study (8) has considered total improvement gains in all comorbid disorders that in current study with a month follow-up this amount was over 75%.

Surprisingly in all studies pointing out above and in our study, there weren't any difference in treatment gains between heterogonous comorbid anxiety and mood disorders. Although these comparisons are limited by the small sample sizes of each diagnostic category, they provide evidences that the UP has equivalent effects in terms of clinical significance across emotional disorders.

This study suggests that a transdiagnostic treatment distilling common strategies utilized in treating anxiety and mood disorders, enhanced by targeting core affective "higher order" factors, may result in substantial clinical improvement in both principal and comorbid disorders. If this is the case, clinicians are afforded a much more parsimonious approach to treatment planning (36) that eliminates the need for multiple diagnosis-specific treatment manuals and more cumbersome treatment planning. This approach to the treatment of emotional disorders now may prove valuable in the dissemination of evidence based treatments, removing some of the traditional barriers to their implementation, such as the significant time and cost required for adequate training in multiple treatment manuals (37). Moreover, as clinicians are often faced with the task of treating patients with complex clinical presentations, the use of a single protocol eliminates the need to use multiple protocols to tackle several problems at once, which has been shown to result in poorer treatment outcome (38).

The main limitation of the current study was the small sample size, which prohibited analyzing differences in treatment efficacy or maintenance of treatment gains across diagnostic categories. Although we provide effect size estimates to address this issue, it points to the importance of replication with a larger sample. Another limitation was related to follow up period of time. A month follow up is unable to investigate precisely changes of symptoms after implementing of treatment. Finally, the present study did not include an active treatment comparison.

Given these limitations, a larger-scale efficacy trial of the UP is needed to replicate and extend on the preliminary findings from the present study. Long-term follow-up studies could help us elucidate the maintenance power of UP. Comparing with the evidence based diagnostic-specific treatment could help to establish whether the UP can be considered at least equally efficacious to established single diagnosis protocol in the treatment of a range of emotional disorders.

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