The Unified Protocol for Transdiagnostic Treatment of Emotional Disorders: Treatment of Comorbid Psychopathology Accompanying a Generalized Anxiety Disorder

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Abstract

Introduction: Comorbidity among the generalized anxiety disorder is common and may negatively impact treatment outcomes. This study aimed to examine whether the Unified Protocol (UP), a transdiagnostic cognitive-behavioral therapy for emotional disorders (i.e., anxiety, mood, and related disorders), is efficacious in the treatment of co-occurring disorders and symptoms Generalized Anxiety Disorder (GAD).
Method: The research method is semi-empirical pretest-posttest and follow-up plan with a control group. In this randomized clinical trial, 24 GAD patients with comorbid disorders and symptoms of depression, social anxiety and health anxiety have been treated with pharmacotherapy treatment-as-usual or pharmacotherapy treatment-as-usual with 12 sessions of transdiagnostic therapy. Beck Depression Inventory (BDI-II), Social Anxiety Inventory (SIAS) and the Short Form of Health Anxiety (SHAI) were used for assessing comorbidities in pre-test, post-test and 2-month follow-up. Data analysis were done using the SPSS V20.
Results: Significant differences were observed between the two groups. In the treatment group for pharmacotherapy treatment-as-usual and UP, GAD Patients, showed a significant decrease in the comorbid disorders and symptoms of depression, social anxiety and health anxiety compared to the pharmacotherapy treatment-as-usual.
Conclusion: The findings of this study validated the effectiveness of the UP in decreasing comorbid disorders and symptoms of the generalized anxiety disorder. This protocol has a high clinical value in treating emotional disorders and other related disorders.

Keywords: Comorbid Disorders and Symptoms, Unified Protocol, Transdiognostic Approach, GAD

Introduction

Generalized Anxiety Disorder (GAD) is a chronic disorder that can be described by excessive worry, high prevalence rate and comorbidity with other symptoms and disorders [1]. The lifespan prevalence of GAD has reported to be 5.7% [2]. Results of studies have shown that this disorder has between 60 to 90% comorbid with other disorders such as depression (i.e. depressed mood and lack of interest), social anxiety (i.e. fear of functional and social situations) and health anxiety (i.e. persistent worries about illness) [3-5]. On the other hand, comorbidity has been linked to chronicity and severity of psychopathology,

relapse rates, treatment seeking , and overall psychosocial functioning [6, 7]. Cognitive-behavioral therapies and specific therapeutic models of GAD have demonstrated their effectiveness in treating this disorder [8-10]. This is while only about 50% of patients who completed the treatment course, achieved a high level of performance and among anxiety disorders, GAD had a lower therapeutic rate [8, 9].

The treatment of certain anxiety disorders such as GAD can lead to positive outcomes in co-morbidity disorders [11]. However, there is a negative correlation between the comorbidity among disorders and treatment outcomes of CBT-specific protocols [12-14]. Recent conceptualizations from high comorbidity among emotional disorders emphasize the existence of common underlying mechanisms (such as neuroticism and emotional dysregulation) that play a crucial role in the formation of these disorders [15]. Common features of emotional disorders such as similar symptoms and high comorbidity led to the development of transdiagnostic approaches [16]. Transdiagnostic interventions that target common mechanisms, likely, have more clinical and practical benefits than specific protocols for any disorder [17]. First, transdiagnostic approaches by focusing on common underlying processes, can directly and simultaneously target comorbidity symptoms. On the other hand, transdiagnostic approaches are more cost-effective and shorter than other evidence-based therapies. For this reason, the use of this approach facilitates the treatment process for the client and the therapist [18, 19]. Finally, in comparison to other specific disorder protocols, these approaches, instead of several protocols, use a specific protocol to treat many emotional disorders. [20]. Research indicated that the transdiagnostic approaches in treating comorbid emotional disorders have been more effective than other interventions or conventional treatments [21-24].

The Unified Protocol (UP) is a transdiagnostic cognitive-behavior therapy for emotional disorders. UP,s emphasis on emotion regulation distinguishes it from other transdiagnostic approaches. UP targets the common underlying features (such as neuroticism, perfectionism, rumination, emotional dysregulation and worry) and high rates of comorbidity of emotional disorders such as depression, anxiety disorders and related disorders [25, 26]. UP in individual and group format has been used in different studies. Results of these studies have shown the efficacy of this protocol in reducing comorbid symptoms of anxiety and depression disorders [27, 28]. Steel et al. conducted a study to compare UP and CBT-specific protocols in the treatment of comorbidity disorders. The results showed that these interventions in the treatment of comorbidity disorders achieved similar results compared with the control group [29]. It can be said that UP may help eliminate the need for multiple diagnosis-specific treatment manuals and simplify treatment planning.

Therefore, with the emphasis of UP on the treatment of comorbid disorders which is often described as the main advantage of this protocol and considering the fact that people with GAD have high levels of depression, social anxiety, and health anxiety. as well as, since no RCT study based on our knowledge has examined the effectiveness of this protocol on the comorbid symptoms of GAD. the purpose of the present study was to investigate the effectiveness of UP on comorbid symptoms and disorders in GAD.

Method

The current study is a semi-experimental study with a pretest-posttest-follow-up design and a control group. The present study compared the combination of the Unified Protocol and pharmacotherapy Treatment-As-Usual (UP+TAU) with pharmacotherapy Treatment-As-Usual (TAU). Twelve of the patients received the UP+TAU treatment and 12 others received TAU that had been prescribed by a psychiatrist. This study was carried out as a pre-test/ post-test with a 2-month follow-up. This study was approved at the ethics committee of Kermanshah University of Medical Sciences (KUMS.REC.1396.617). The intervention protocol and method were registered in the Iranian Registry of Clinical Trials (IRCT20120619010063N7). The assessment process was carried out by a trained MSc student (Except for the researchers) who was not involved in the study, and had no information about the study groups. All treatment sessions were conducted by a MSc student of Clinical Psychology (first author), who received training for cognitive behavior therapy and transdiagnostic treatment. Treatment sessions were conducted under the supervision of a professor of Clinical Psychology (the second author of this article). In addition, weekly meetings were also organized between the therapist and a professor of Clinical Psychology (the second author) to supervise the sessions.

In the first step, 83 subjects with GAD were referred by psychiatric colleagues from psychiatric clinics to participate in this study to one of the researchers in the psychiatric clinic of Kermanshah Farabi Hospital. In the second step, an initial screening was done with the Generalized Anxiety Disorder questionnaire (GAD-7) and then an Anxiety Disorders Interview Schedule for DSM-IV (ADIS-IV) program was used by a clinical psychologist to confirm the diagnosis of the psychiatrist. In the third step, 24 subjects with GAD were selected based on the exclusion and inclusion criteria and were entered in the study. Inclusion criteria included: 1) having at least 18 years old, 2) having at least third grade at middle school, 3) GAD as the primary diagnosis based on psychiatrist's diagnosis and diagnostic interview by a psychologist, 4) having comorbid symptoms of depression, social and health anxiety (mild to severe), 5) Unchanged dosage, type of medication and receiving almost the same drugs, 6) Motivation and satisfaction for participating in the treatment and research. Exclusion criteria included: 1) Change in the dose and type of drugs used during the study due to oscillation of the symptoms of the patient 2) The apparent risk of suicide during the study 3) Receiving other psychological treatments 4) Drug abuse or drug dependence during the research and also one year before

the research. Before participating in the study, the patients studied and completed the informed consent form. They could, also, leave the research whenever they wished. All research information was confidential. If a participant wanted to know the results of the research, the necessary information was given. To maintain ethics in the research, transdiagnostic self-help books were introduced to those who did not have the inclusion criteria.. Patient's allocations have been showed in Figure 1.

The patients in the TAU group continued treatments under the supervision of a psychiatrist. All patients had at least 5 months of stability in the dosage and type of drugs. Also, during the study, they did not participate in other psychological interventions. Patients were supervised to prevent signs or side effects getting worse during this period. The use of medication, including any medication or dose changes, has been tracked and recorded during each evaluation. Patients completed the assessments in three stages: pre-test, post-test and follow-up. One patient in the TAU group did not complete treatment sessions due to changes in dosage and type of drugs. The patients of UP+TAU group had the same conditions of the TAU group. Their assessments were similar to the TAU group. This is while, in addition to the TAU group, they received 12 sessions of UP weekly. One of the participants in this group, due to lack of availability, did not complete the follow-up assessment.

UP is considered as a transdiagnostic treatment that consists of five therapeutic modules. These five modules are consisted of: emotional awareness training, cognitive flexibility, identification and prevention of emotional avoidance patterns, increased awareness and tolerance of physical sensations related to emotion and emotional exposure. Also, in each treatment session, in addition to specific skill trainings, homework is given to patients to learn skills [25]. Protocol of UP has been presented in table 1. The following questionnaires were used for data collection:

Anxiety Disorders Interview Schedule for DSM-IV (ADIS-IV): This tool is a semi-structured clinical and diagnostic interview which is used for the assessment of anxiety disorders and other disorders such as mood disorders, somatoform, psychosis and substance abuse [30]. This tool can measure the severity of any disorder. ADIS-IV is scored from 0 to 8. ADIS-IV Clinical Severity Rating (CSR) is used to differentiate clinical diagnoses. Each diagnosis is graded on a scale of CSR from 0 (no symptoms) to 8 (extremely severe symptoms). The score of 4 in this scale is the clinical severity threshold for diagnosis based on DSM-IV (30). In Iran, the test-retest reliability of this scale has been reported to be 0.83 within a week [31]. In the present study, this tool was used for screening, confirmation of clinical diagnosis and CSR) in the early assessments.

Generalized Anxiety Disorder 7-Item (GAD-7) Scale: GAD-7 was developed to diagnose anxiety disorder and to measure the severity of clinical symptoms. Items score from 0 to 3 and the scale ranging is 0 to 21. Cronbach's alpha coefficient and its test-retest coefficient were measured 0.92 and 0.83, respectively, within two weeks [32]. In a study by Zargar, the internal consistency of 0. 87 was obtained for GAD-7 [33]. This scale was only used in the initial screening of patients.

Beck Depression Inventory - Second Edition (BDI-II): BDI-II was developed by Beck to measure the severity of depression in 1963 and was after on revised in 1994. BDI-II consists of 21 items and each item takes 0 to 3 scores. The reliability of the test-retest was 0.48-0.86 [34]. Ghasemzadeh et al. have reported that the alpha coefficient of BDI-II was 0.87 and the correlation with the first version of the Beck Depression Inventory was 0.93 [35].

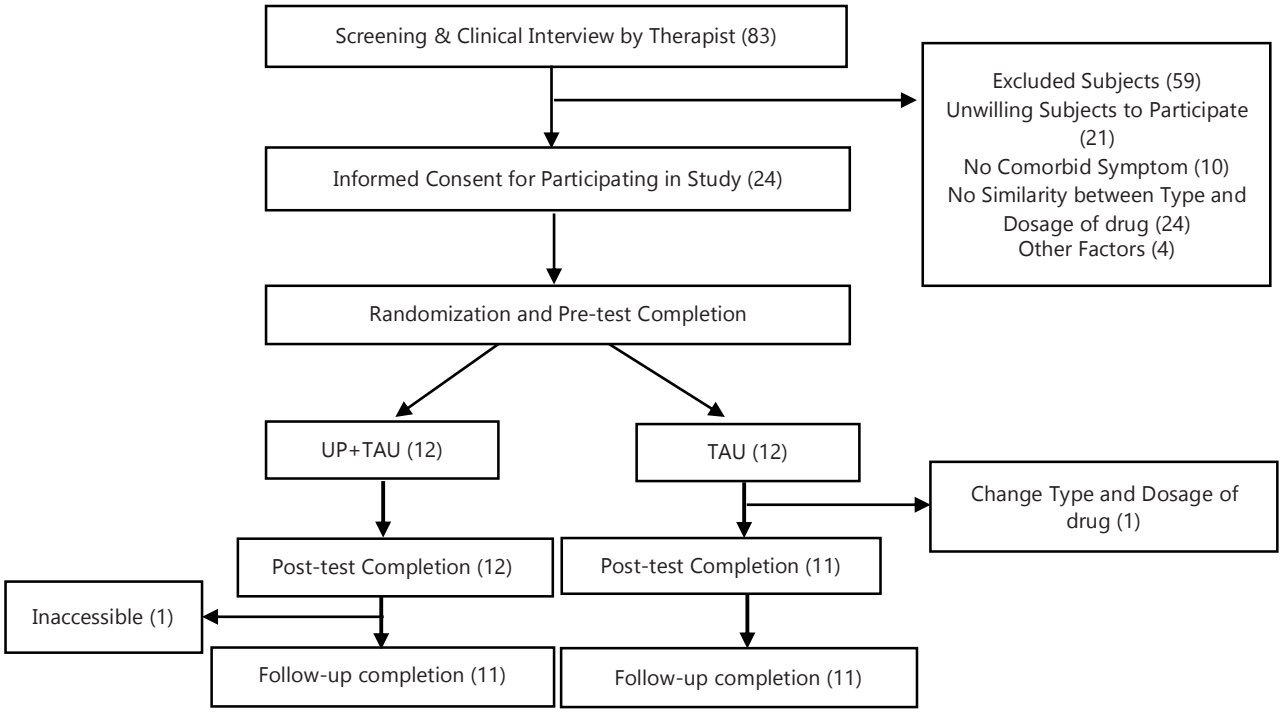

Figure 1. The research flowchart

Social Interaction Anxiety Scale (SIAS): This scale consists of 20 questions which measure individual reactions to situations related to interpersonal and social interactions. Items are graded on a five-point Likert scale. Higher scores represent higher levels of anxiety in social interactions. The validity of this scale is 0.84 and its reliability is 0.91 [36]. Test-rest and Cronbach's alpha of the SIAS reliability has been reported to be 0.79 and 0.90 in Iran, respectively [37].

Short Health Anxiety Inventory (SHAI): SHAI was firstly developed by Salkovskis and his colleagues. SHAI is a self-report inventory with 18 sentences. For each of these terms, there is four options. Items are graded from 0 to 3. Sentences of this test are about health concerns, attention to sensations or physical changes and the terrible outbreaks of diseases. The internal consistency coefficients for this scale varied from 0.71 to 0.95. In the same studies, the reliability coefficient have been reported to be 0.90 [38, 39]. Cronbach's alpha and the test-retest coefficient of this tool has been reported to be 0.81 and 0.70 in Iran, respectively [40].

The research data were analyzed using SPSS-20. For this purpose, descriptive statistics (mean and standard deviation) were used along with inferential tests such as Levene's test, the independent t-test, the chi-squared test, the Kolmogorov-Smirnov test, and the univariate ANCOVA. This approach (ANCOVA) has been recommended as a valid statistical strategy for analyzing the results of the RCT studies [41, 42].

Results

The demographic characteristics of the subjects have been presented in table 2. Differences between groups in regards to the demographic data and pre-test tools were analyzed by Independent T-test and Chi-square test. The results showed that there is no significant difference between the mean age of the experimental group (M = 30.16, S = 7.62) and the control group (M = 31.00, S = 10.51). Based on the Chi-square test, there was no difference between the sex variable in both groups (x2(1) =1.5, p=0.22). In addition, there was no significant difference in the level of education, marital status, type of drug and the variables of the study.

The mean and standard deviation of the variables of the intervention and control group in the pre-test, post-test and two-month follow-up period have been presented in Table 3. As the results show, the intensity of depression, social anxiety and health anxiety significantly decreased in the intervention group compared to the control group.

Before conducting the ANCOVA, the equality of variances and normality of data were analyzed to ensure that the aforesaid tests were appropriate for the data analysis. The results of Levene's test showed the equality of variances for depression (f = 0.434, sig = 0.517), social anxiety (f = 0.714, sig = 0.408), and health anxiety (f = 2.326, sig = 0.142). According to the Kolmogorov-Smirnov test, the distribution of data was normal for depression (Z = 0.725, sig = 0.669), social anxiety (Z = 0.551, sig = 0.922), and health anxiety (Z = 0.802, sig = 0.541).

Parametric test of one-way analysis of covariance (ANCOVA) was used for comparison between two groups in post-test. The results in Table 4 show that the difference between the two groups in depression (P <0.001, F= 27.276), social anxiety (P <0.000, F = 19.94), and health anxiety (P <0.001, F = 19.771) are significant in the post-test phase. In addition, the effect size coefficient indicates that the difference between the two groups in BDI-II (0.57), SIAS (0.51) and SHAI (0.49) are related to UP.

Table 1. Protocol of UP

Modules	Content	session
1	Motivation enhancement for treatment engagement. Description of treatment modules	1
2	Psychoeducation and tracking emotional experiences	1
3	Present-focused, emotion awareness training	1
4	Cognitive appraisal and reappraisal (increasing cognitive flexibility)	1
5	Emotion avoidance and emotion-driven behaviors (EDB_s)	2
6	Awareness and tolerance of physical sensation	1
7	Interoceptive and situational emotion exposure	4
8	Relapse prevention. Homework assignment	1

Table2. Demographic characteristics of participants

Parameters	Experimental group	Control group	P-Value
Age	30.16 ± 7.62	31.00 ± 10.51	0.48
Gender			0.22
Female, NO. (%)	8 (66.67%)	7 (58.33%)	
Male, NO. (%)	4 (33.33%)	5 (41.67%)	
Education			0.31
High school incomplete, NO. (%)	3 (25%)	3 (25%)	
High school complete, NO. (%)	5 (41.67%)	3 (25%)	
Associate's Degree, NO. (%)	1 (8.33%)	2 (16.67%)	
Bachelor's Degree, NO. (%)	2 (16.67%)	3 (25%)	
Master's Degree, NO. (%)	1 (8.33%)	1 (8.33%)	
Marital status			0.68
Single, NO. (%)	6 (50%)	5 (41.67%)	
Married, NO. (%)	6 (50%)	7 (58.33%)	
Drug			0.68
Anti-anxiety & depression, NO. (%)	8 (66.67%)	5 (41.67%)	
Anti-anxiety, NO. (%)	4 (33.33%)	7 (58.67%)	

The results in Table 5 show that the difference between the two groups in the depression (P <0/001, P = 16.180), social anxiety (P <0/001, F= 17.071) and health anxiety (P <0/001, F= 15.029) are also significant in the follow-up phase. Also, the effect size coefficient shows that the difference between the two groups in BDI-II (0.49), SIAS (0.47) and SHAI (0.44) in the follow-up phase are maintained by the Unified Protocol (Table 5).

Table 3. Mean, and standard deviation of BDI-II, SIAS, and SHAI

	Group UP+ TAU			Group TAU		
	Pretest Mean (SD)	Posttest Mean (SD)	Follow up Mean (SD)	Pretest Mean (SD)	Posttest Mean (SD)	Follow up Mean (SD)
BDI-II	28/91 (9/49)	15/41 (5/26)	11/63 (4/08)	25/83 (9/34)	19/27 (7/17)	17/54 (7/47)
SIAS	40/08 (13/32)	19/50 (7/09)	17/63 (5/66)	41/58 (11/42)	29/45 (8/05)	27/90 (6/80)
SHAI	24/33 (12/27)	9/91 (6/61)	11/18 (6/40)	21/41 (6/57)	14/90 (6/83)	16/27 (7/21)

Note: BDI-II: Beck Depression Inventory, **SIAS**: Social interaction anxiety scale**, SHAI:** The Short Health Anxiety Inventory

Table 4. The results of ANCOVA for BDI-II, SIAS and SHAI

	SS	Df	MS	F	Sig.	ES
BDI-II	178.034	1	178.034	27.276	0.001	0.557
SIAS	540.355	1	540.355	19.94	0.001	0.500
SHAI	257.328	1	257.328	19.771	0.001	0.497

Note: BDI-II: Beck Depression Inventory, **SIAS**: Social interaction anxiety scale**, SHAI:** The Short Health Anxiety Inventory

Table5. The results of ANCOVA for BDI-II, SIAS and SHAI

	SS	Df	MS	F	Sig.	ES
BDI-II	270.616	1	270.616	16.180	0.001	0.495
SIAS	522.581	1	522.581	17.071	0.001	0.473
SHAI	275.685	1	275.685	15.029	0.001	0.442

Note: BDI-II: Beck Depression Inventory, **SIAS**: Social interaction anxiety scale**, SHAI:** The Short Health Anxiety Inventory

Discussion

The primary goal of the current study was to examine the effectiveness of UP in improving comorbid symptoms and disorders with GAD. The results showed that UP was effective in reducing comorbid symptoms and disorders (depression, social anxiety, and health anxiety). The second goal of this study was to examine the efficacy of UP+TAU in comparison with the TAU in reducing comorbid symptoms and disorders with GAD. The results showed that both treatments were effective in reducing comorbidity symptoms, but the combination TAU+UP reduced significantly more than TAU. UP was effective in the treatment of a range of comorbid symptoms and disorders, including depression, social anxiety and health anxiety. Effect sizes of UP is comparable to treatments that target disorder-specific symptoms.These findings are consistent with other studies on the effectiveness of UP [27, 43-46].

In explaining the results it can be said, UP by focusing on common emotional factors (such as rumination, anxiety, avoidance and emotional dysregulation) rather than the specific signs of any disorder, significantly reduced the comorbidity symptoms in GAD patient [25]. Individuals with GAD due to the presence of comorbid depression usually have low levels of energy and motivation for treatment. Module 1 of the UP (motivation enhancement) by increasing the readiness and motivation of patients for behavior changing and reinforcement of self-efficacy removes these obstacles [25, 47]. In addition, Module 5 (cognitive appraisal and reappraisal) by focusing on reducing maladaptive behaviors that has been caused by emotions, improves comorbid depression [25, 26]. On the other hand, by using module 7(emotion exposure and prevention of avoidance), initially, the symptoms of the patients intensified, which could be a sign of change in the structure of fear or the effectiveness of exposure. By continuing emotion exposure procedures, patients' symptoms gradually decrease and new emotional experiences are learned [26, 48]. Studies also show that module 4 (cognitive appraisal and reappraisal) can help patients manage their negative emotional experiences [49]. This technique is one of the core modules of UP that has been effective in reducing the comorbid symptoms of depression and health anxiety [25]. Research has shown that emotional disorders have a common etiology (e.g., neuroticism) that can explain the comorbidity between these disorders. These common underlying factors determine the severity and chronicity of comorbidity conditions [50-52]. Therefore, treating comorbidity disorders is more difficult than specific disorders, However, patients with comorbid disorders seem to give better responses to the treatment of UP than other specific treatment protocols [53, 54]. These findings are consistent with other studies in the treatment of comorbidity disorders [22, 24, 55-57].

In addition, Low effect size in social anxiety and health anxiety symptoms (compared with depression) may be due to the lower levels of these symptoms in the baseline. On the other hand, changes in reactions to anxiety-related symptoms may only be achieved through repeated exposure to anxiety symptoms over time. It should also be noted that in the present study, the explicit goal in the UP

was not to eliminate anxiety but to change the reactions to anxiety.

Despite the above findings, this study has limitations that may limit the generalizability of the findings. The sample size is small, although largely consistent with sample sizes for studies investigating the UP to date. The study variables were both at clinical and sub-clinical levels. Athor comorbid symptoms, such as obsessive-compulsive and panic disorders, were not assessed. The entire sections of the treatment were carried out in the same way, but, the unified protocol is flexible and therapeutic modules of this approach can be applied in the number of sessions appropriate to each particular patient. So future studies need to examine other comorbidity disorders such as panic, OCD and etc. Also, they can use larger sample sizes and compare this protocol with specific therapeutic protocols GAD (such as emotion dysregulation model). Finally, because the number of sessions for each core modules can differ from one patient to another, further studies require applying the modules and the number of sessions suited to each patient's conditions.

Due to the high comorbidity rates in anxiety and mood disorders for generalized anxiety disorder, therapists may be unsure about which treatment protocol is best for GAD patient. So, UP for the transdiagnostic treatment of emotional disorders eliminates the need for specific treatment protocols for comorbid disorders. Also, considering the high comorbidity in GAD, this protocol can be used as an effective and low cost treatment.

Conclusion

In the current study, the unified protocol improved symptoms of depression, social anxiety and health anxiety in patients with generalized anxiety disorder. Moreover, UP increased social relationships, occupational and social functions, and life satisfaction of patients with GAD improves. Therefore, considering the benefits of this protocol in improving comorbid disorders, it can be used in the treatment of various emotional disorders.

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