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Effectiveness of a unified protocol on emotion regulation and experiential avoidance in women with comorbid major depressive and generalized anxiety symptoms

Mahsa Bameshgi[1]; *Ali Kimiaei[2]; Ali Mashhadi[3]

[1]MA. in Clinical Psychology, Department of Psychology, Faculty of Education and Psychology, Ferdowsi University of Mashhad, Mashhad, Iran.
[2]Associate Professor in Counseling, Department of Counseling and Education Psychology, Faculty of Education and Psychology, Ferdowsi University of Mashhad, Mashhad, Iran.
[3]Professor of Psychology and Clinical Neuropsychology, Department of Psychology, Faculty of Education Sciences and Psychology, Ferdowsi University of Mashhad, , Mashhad, Iran.

Abstract

Introduction: Emotion dysregulation is one of the important underlying factors in the development and maintenance of mood and anxiety symptoms and it can reduce therapeutic effectiveness significantly. The present study aimed to examine the effectiveness of a unified protocol of transdiagnostic group treatment for emotional disorders in women with comorbid generalized anxiety and major depressive symptoms.

Materials and Methods: The participants of this study consisted of thirty-five women with symptoms for generalized anxiety and depression among who referred to the Specialized Polyclinic of Psychological and Counseling Services of Ferdowsi University of Mashhad. They divided randomly into two experimental and control groups. The experimental group received twelve sessions of two-hour group treatment, based on the unified protocol of transdiagnostic treatment, while the control group did not receive any treatment. Research instrument included semi-structural clinical interview, Beck Depression Inventory, Beck Anxiety Inventory, Difficulties in Emotion Regulation Scale and the Acceptance and Action Questionnaire. Data analyzed through ANCOVA, MANCOVA using SPSS-22 statistical software.

Results: The transdiagnostic group treatment significantly alleviated the symptoms of generalized anxiety and depression (P<0.05), and significantly improved emotional regulation strategies and experiential avoidance (P<0.05).

Conclusion: It seems that unified protocol transdiagnostic group treatment, which addresses the common underlying factors of emotional disorders, may be an effective therapeutic strategy for individuals with emotional comorbid disorders, and contributes to reducing maladaptive emotion regulation strategies.

Keywords: Emotional disorders, Emotion regulation, Experiential avoidance, Transdiagnostic treatment, Women.

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***Corresponding Author:**
Department of Counseling and Education Psychology, Faculty of Education and Psychology, Ferdowsi University of Mashhad, Mashhad, Iran
kimiaee@um.ac.ir
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Introduction

Depressive and anxiety disorders not only have a high prevalence (1) but also have high comorbidity. About half of individuals with significant depressive disorder experience at least one anxiety disorder during their lifetime (2). Among anxiety disorders, generalized anxiety and panic disorders show the highest comorbidity with major depression (1), highlighting the importance of focusing on common underlying factors in studying and treating emotional disorders. The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-V) has defined anxiety distress as a specific character of depression due to anxiety and depressive disorders (3). In addition, from a clinical point of view, depressive and anxiety disorders share common signs like social functioning deficit (4), irritability (5), and emotion dysregulation (6).

Emotion regulation problems are associated with different types of psychopathologies such as anxiety and depression. Individuals with depressive and anxiety symptoms have more emotion regulation problems than individuals without psychological disorders. These individuals show difficulty engaging in goal-directed behavior, lack of emotional awareness and clarity, non-acceptance of emotional response, impulse control difficulties, and limited access to emotion regulation strategies (7). A systematic review of sixty-seven studies measuring changes in emotion regulation and psychopathological symptoms following a psychological intervention for anxiety and depression showed that in most studies, regardless of the intervention or disorder, emotion dysregulation decreases therapeutic effectiveness significantly (8). Another study showed that difficulty in emotion regulation significantly mediated the relationship between negative childhood experience and incidence of symptoms of comorbid depression, Post-Trauma Stress Disorder (PTSD), and poor physical health in adulthood in women with adverse childhood experiences (9).

One of the emotion regulation strategies is Experiential Avoidance (EA) or psychological inflexibility (10). Experiential avoidance, defined as a tendency to avoid negative thoughts and feelings, even when doing so leads to negative long-term consequences, is a core construct of third-wave behavioral therapies (11). Experiential avoidance strongly correlates with emotion regulation difficulties (12) and mental health problems (13). By this, individuals with high experiential avoidance scores experience more psychological distress such as depression and anxiety (14,15). As a result, experiential avoidance affects the course and development of concurrent emotional disorders, as another transdiagnostic factor, and its construct measure can predict the amount of future distress in major depressive disorder and generalized anxiety disorder (16).

Given the high rates of comorbidity of emotional disorders (1) and the role of underlying factors such as emotion regulation in the development and maintenance of mood and anxiety disorders (17), it seems that the unified protocol may be an appropriate approach to improve emotion regulation and decrease experiential avoidance in individuals with comorbid symptoms. The unified protocol is a transdiagnostic treatment for emotional disorders (18,19), which is developed in response to the significant overlap between depressive and anxiety symptoms and the high rates of comorbidity of emotional disorders (20,21). This intervention targets the common underlying factors of emotional disorders, especially neurosis and negative affection (18), present in generalized anxiety and depressive disorders. A meta-analysis of fifteen studies investigating the effectiveness of this protocol in the transdiagnostic treatment of emotional disorders showed that this treatment might be effective in decreasing anxiety (generalized anxiety, panic, agoraphobia, and social anxiety), depressive, obsessive-compulsive, and borderline personality disorders (22). Studies have shown that providing the unified protocol as a group treatment can also improve the symptoms of depression, anxiety, sexual dysfunction, and quality of life. (23,24). This protocol is a comprehensive treatment, including promotion of emotional awareness, identification, and management of emotion-induced behaviors, prevention of emotional avoidance, identification and management of maladaptive cognitions, and coping with bodily symptoms and situational emotions (25), which aims to cultivate more acceptance and willingness towards experiencing strong emotions, rather than struggling with them that leads to development and maintenance of emotional disorders (23).

The current study aimed to investigate the efficacy of the unified protocol-based group treatment for women with significant

depressive and generalized anxiety symptoms. Previous research has shown that this protocol effectively alleviates mood and anxiety symptoms in individuals with comorbid emotional disorders (23,26,27). However, less research has investigated using this treatment in a group format. Furthermore, as several studies have shown the effectiveness of this protocol in improving emotion regulation (22,28).

Materials and Methods

Our statistical population consisted of all married women referred to the Specialized Polyclinic of Psychological and Counseling Services of Ferdowsi University of Mashhad by counseling centers of Mashhad city, Iran. All participants entered the research voluntarily after receiving our announcement. We used convenience sampling, and participants were selected according to the inclusion and exclusion criteria and assigned randomly to experimental and control groups. The inclusion criteria included having symptoms of depression and generalized anxiety based on the therapist's evaluation through a semi-structured clinical interview for DSM-IV, getting a score of above 19 in the Beck Depression Inventory, getting a score of above 15 in the Beck Anxiety Inventory, and having at least high school diploma. The exclusion criteria included using psychiatric medicine, substance abuse, and having a current psychiatric episode. At first, forty-one individuals were evaluated clinically. Then, thirty-five individuals were selected based on their interviews and scores of the questionnaires. Eligible individuals were randomly assigned to experimental (n= 17) and control (n= 18) groups. Both groups completed the Beck Depression Inventory (BDI), the Beck Anxiety Inventory (BAI), the Difficulties in Emotion Regulation Scale (DEES), and the Acceptance and Action Questionnaire (AAQ-II) after the interview.

Then, the experimental group received twelve 120-minute sessions of a unified protocol-based treatment transdiagnostic intervention for emotional disorders, while the control group did not receive any treatment. At the end of these sessions, both groups completed the questionnaires.

After giving informed consent, the eligible participants were assigned randomly into the Unified Protocol (n= 17) and control (n= 18) groups. Both groups were assessed before the intervention using the SCID semi-structured interview and completed self-assessment questionnaires before and after the intervention. The Ethical Board approved the study of the Ferdowsi University of Mashhad.

A trained master clinical psychology student under the supervision of a professor in psychology conducted the interviews, tests, and the unified protocol. The standard weekly symptom measures included in the unified protocol, the OASIS, and ODSIS were used. It is noteworthy that our sessions were free of charge and lasted for three months. In addition, the following protocol was performed (Table 1).

Table 1. General outline of the unified protocol trandiagnostic group treatment sessions

Session	Content
1	Discussing the pro and cons of change; determining the specific (short- and long-term) goals of treatmen
2	Offering a general outline of the functional and adaptive nature of emotions; the three-component model of emotional experiences
3	Identifying triggers of emotional experiences, responses to these experiences, and the consequent short- and long-term outcomes
4	The influence of emotional experiences on current and future behaviors; the concept of emotion-based behaviors
5	Non-judgmental emotional awareness; present-focused awareness; practicing emotional awareness; mindfulness techniques
6	The influence of thoughts on emotions; cognitive evaluation; identifying thought traps; cognitive reevaluation
7	Identifying strategies of emotional avoidance and the contradictory effects of emotional avoidance
8	Identifying maladaptive emotion-based behaviors; developing habit to alternative functions
9	Identifying bodily sensations, and their role in determining emotional responses; practicing coping
10	Understanding the goal of coping with emotions; designing emotional coping exercises
11	Discussing members' experiences in situations of emotional coping based on the three-component model
12	Reviewing emotion regulation skills; generalizing skills; setting long-term goals; discussing strategies for maintaining the progression

Research instrument

A) DSM-IV (SCID-I): It is a semi-structured clinical interview, used as a unique standard screening tool for assessing current mood and anxiety disorders and applying in accreditation studies of axis I clinical disorders (29). The inter-rater reliability for axis I disorders was moderate to high (30), and the inter-rater reliability coefficient, in terms of diagnosing major depression, was 0.66 to 0.93 (30).

B) Beck Anxiety Inventory (BAI): Beck, Epstein, Brown, and Steer developed this inventory to assess the severity of current anxiety symptoms (during the last week). This 21-item questionnaire is evaluated on a Likert scale, ranging from 0 to 3. This scale is valid and reliable for anxiety symptoms (31). In Johnson and colleagues' (2017) study, its Cronbach's alpha coefficients at pre-treatment, post-treatment, and one-year follow-up were 0.89, 0.92, and 0.91, respectively (32). The internal consistency of its Persian version was also proved to be high (α= 0.92) (33).

C) Beck Depression Inventory (BDI-II): It was created by Beck, Steer, and Brown (1996) to assess the severity of current depressive symptoms (during the last two weeks) (34). This 21-item self-report inventory is evaluated on a Likert scale, ranging from 0 to 4, with a score range of 1 to 63. Its internal consistency in both clinical (α= 0.92) and non-clinical (α= 0.93) populations and its test-retest reliability (α= 0.93) were high. In Johnson and colleagues' (2017) study, its Cronbach's alpha coefficients at pre-treatment, post-treatment, and one-year follow-up were 0.87, 0.93, and 0.93, respectively (32).

D) Difficulties in Emotion Regulation Scale (DEES): Gratz and Roemer developed this scale in 2004. It is a 36-item self-report questionnaire that measures six facets of emotion regulation, including (1) non-acceptance of emotional responses; (2) difficulty in engaging in goal-directed behavior; (3) impulse control difficulty; (4) lack of emotional awareness; (5) limited access to emotion regulation strategies; and (6) lack of emotional clarity. We used the Persian version of DEES (35), for which internal consistency was measured by Mohajerin and colleagues (2019) (α= 0.90) (28).

E) Acceptance and Action Questionnaire (AAQ-II): It measures experiential avoidance or cognitive inflexibility and probably is the most widely used measuring tool for experiential avoidance. AAQ-II consists of 7 items, with higher scores indicating more mental flexibility (11). The results concluded from 2816 participants showed the fine structure, reliability, and validity of AAQ-II. Its mean alpha coefficient was 0.84, and its test-retest reliability was 0.81, respectively (36). In addition, the psychometric properties of this questionnaire were examined in Iran. Exploratory factor analysis reported two factors of emotional experiences and having control over life. In addition, its internal consistency (0.89) and reliability coefficient (0.71) were acceptable (37). The effect of the treatment on depression, generalized anxiety, experiential avoidance, and the total score of emotion regulation difficulties analyzed through univariate analysis of covariance (ANCOVA). Multivariate analysis of covariance (MANCOVA) was used to evaluate components of the emotion regulation difficulties scale. Baseline scores were entered into the analysis as the covariate, and the post-test scores were entered as the dependent variable. All analyses were conducted using SPSS-22 statistical software.

Results

Finally 15 participants in each group completed the process of research and their data analyzed. Table 2 shows the demographic properties of the experimental and control groups.

Table 2. Participants' demographic characteristics

	Experimental group (n= 15)	Control group (n= 15)	P
Age (Mean ± SD)	32.66 ± 9.40	34 ± 4.37	$t_{(19.78)}$= -0.49, *P*= 0.62
Education, n (%)			
High school diploma	0 (0)	2 (13.33)	χ^2= 5.04, df= 2, *P*= 0.08
Bachelor's degree	12 (80)	13 (86.66)	
Master's degree	3 (20)	0 (0)	

The descriptive and inferential information of experimental and control groups, including mean, standard deviation, F, and effect size of research variables, are presented in Table 3.

Before conducting the parametric tests of univariate and multivariate analyses of covariance, the assumptions of these tests were examined. The results of Kolmogorov-Smirnov test showed that all variables were distributed normally (P> 0.05), and the Levene's test confirmed the assumption of homogeneity of variances; BDI: F(1,28)= 2.67, P= 0.11; BAI: F(1,28)= 0.14, P=0.70; AAQ: F(1,28)=2.87, P= 0.10; DEES: F(1,28)= 1.01, P= 0.32. The assumption of the homogeneity of regression slope was also met; BDI:F(1,28)=0.62, P= 0.43; BAI: F(1,28)= 0.003, P= 0.95; AAQ: F(1,28)= 1.93, P= 0.17; DERS: F(1,28)= 0.01, P= 0.90. To test the assumption of multivariate analysis of covariance in terms of emotion regulation difficulties, the results of Box's M test were examined, and the homogeneity of the covariance-variance matrix was not statistically significant, F(1.36, 2883.55)= 1.36, P= 0.13, Box's M= 37.23, which means the above assumption was met. As a result, Wilks' lambda was used to examine the significance of multivariate effects (Table 3).

Table 3. Mean and standard deviation of variables and results of covariance analysis

Measures	Phase	Experimental group		Control group		F	Cohen's d
		mean	SD	mean	SD		
Depression	Baseline	30.40	5.44	25.60	5.67	26.07*	1.96
	Post-test	15.53	6.64	24.40	5.20		
Anxiety	Baseline	25.20	3.70	24.60	4.06	40.16*	2.40
	Post-test	14.93	3.97	21.93	4.18		
Experiential avoidance	Baseline	34.66	7.93	39.86	6.91	16.56*	1.56
	Post-test	46.40	9.81	39.06	8.85		
Non-acceptance of emotional responses	Baseline	17.40	5.15	17.06	6.69	9.97*	1.34
	Post-test	12	4.24	14.80	4.72		
Difficulty in engaging in goal-directed behavior	Baseline	18.80	3.27	17.33	3.01	0.97	0.40
	Post-test	13.53	3.87	15.26	2.73		
Impulse control difficulty	Baseline	16.86	3.77	13.26	4.46	0.03	0.09
	Post-test	13.93	4.65	13.33	3.33		
Lack of emotional awareness	Baseline	20.66	4.77	16.06	5.29	13.46*	1.56
	Post-test	12.33	2.79	15.80	3.91		
Limited access to emotion regulation strategies	Baseline	26.86	6.05	25.73	3.45	9.97*	1.34
	Post-test	16.73	4.09	22.33	3.92		
Lack of emotional clarity	Baseline	14.40	4.68	17.33	4.57	4.74*	0.90
	Post-test	11.40	2.82	15.26	2.52		
Emotion regulation difficulties	Baseline	115	18.90	106.80	13.39	31.54*	2.12
	Post-test	79.93	13.46	96.80	9.33		

*P< 0.05

As Table 3 shows, there was a significant difference between the experimental and control groups in terms of depression (F(1,27)= 26.07, P< 0.05), anxiety (F(1,27)= 40.16, P< 0.05), experiential avoidance (F(1,27)= 16.56, P< 0.05), and emotion regulation difficulties (F(1,27)= 31.54, P<0.05).

The results of multivariate analysis of covariance showed that, after controlling for the effects of baseline scores of emotion regulation difficulties components, there was a significant difference between the experimental and control groups in terms of a new variable, resulting from the linear combination of post-test scores as the dependent variables (F(6,17)= 6.56, P< 0.05, Wilks' lambda= 0.30). As Table 3 shows, to compare the mean score of emotion regulation difficulties of the two groups in different phases of evaluation, between-participants effects were analyzed, which showed that there is a significant difference between the experimental and control groups in terms of scores of non-acceptance of emotional responses (F(1,22)= 9.97, P< 0.05), lack of

emotional awareness (F(1,22)= 13.46, *P*< 0.05), limited access to emotion regulation strategies (F(1,22)= 9.97, *P*< 0.05), and lack of terms of difficulty in engaging in goal-directed behavior (F(1,22)= 0.97, *P*> 0.05) and impulse control difficulty (F(1,22)= -0.03, *P*> 0.05)

Discussion

Due to the high comorbidity between mood and anxiety disorders, especially generalized anxiety disorder, therapists may doubt the most appropriate therapeutic strategy. It seems that the above diagnoses, which, due to the frequently occurring, intense negative emotions characterizing them, are known as emotional disorders are referred to as emotional disorders, are maintained by aversive reactions to emotional experiences that may lead to subsequent efforts to escape or avoid them (19). It seems that individuals with comorbid disorders benefit from the unified protocol as much as established single disorder protocols (18,26). The present study showed that the unified protocol is efficacious in the treatment of women with comorbid significant depressive and anxiety symptoms. These findings are in line with previous studies (19,23,26-28).

In the present study, the moderate level of depression at baseline did not affect participants' motivation for participation in the study, and, except for two individuals, the rest of the groups completed the treatment. This was probably because the group sessions were held once a week regularly. The psychoeducation and increased motivation components of the unified protocol might also prevent dropping. Not charging the participants for any fees might contribute to this, too.

Several studies have implicated emotion regulation difficulties as a primary factor in developing and maintaining psychopathology. Therefore, emotion regulation is considered a transdiagnostic construct or underlying mechanism in psychopathology, and it could be expected that effective treatment of various disorders may lead to improved emotion regulation (8).

In the present study, the mean total score of emotion regulation difficulties and experiential avoidance was significantly reduced in the experimental group compared to the control group. Four of the six subcomponents of emotion regulation, namely non-acceptance of emotional responses, lack of emotional awareness, limited access to emotion regulation emotional clarity (F(1,22)= 4.74, *P*< 0.05). However, there was no significant difference between the experimental and control groups in strategies, and lack of emotional clarity, showed a significant difference between the two groups. The unified protocol is a transdiagnostic, emotion-focused cognitive behavior therapy, which emphasizes the adaptive, functional nature of emotions and mainly seeks to identify and correct maladaptive attempts to regulate emotional experiences to facilitate appropriate processing and extinct excessive emotional responding to internal (interoceptive) and external cues (38). The aim is to cultivate more acceptance and willingness towards experiencing solid emotions rather than struggle with them, leading to the development and maintenance of emotional disorders (23). Training mindfulness skills as one of the parts of the unified protocol targets experiential avoidance by providing an opportunity for observing the way emotions develop, intensify, and gradually disappear. Emotion exposure (the 7th module of transdiagnostic treatment) is also a powerful technique that directly targets the trans-diagnostic factor of experiential avoidance. Emotion exposures may indirectly target three other transdiagnostic factors, namely, slows down rumination, shifts focus from short-term outcomes to long-term success, and breaks down the inflexibility in responding. Since depression and anxiety are positively related to emotion regulation difficulties such as experiential avoidance (7-9,14,15), increased difficulty in emotion regulation and experiential avoidance leads to increased depressive and anxiety symptoms, and vice versa. Therefore, it could be concluded that to improve emotion regulation and reduce depressive and anxiety symptoms; psychological treatments should reduce experiential avoidance and increase psychological flexibility. Several studies have shown that group treatment may be more successful than individual therapy because groups provide an opportunity for teaching social skills. Since our unified protocol was conducted in a group format, it included role-play situations through which the participants practiced new skills. Furthermore, participants' feedback following the group treatment in the present and other studies showed that they accept unified protocol, which is valuable since although many group treatments produce

symptom reduction equivalent to individual therapies, most clients prefer individual therapy (19,23). Based on the focus of the unified protocol on the underlying components such as neurosis, rather than direct targeting of the disorder-specific signs (e.g., intense worry in generalized anxiety or panic disorder), signs of both depression and generalized anxiety were alleviated. Since the unified protocol identifies the main underlying factors, it can be used for many emotional disorders (18). Furthermore, it can reduce clinicians' responsibility to learn several protocols for each disorder and increase their skill in one unified protocol. Due to the comorbidity of emotional disorders, the unified protocol can improve all emotional illnesses of a client at once, which saves time and cost for both client and therapist.

In other words, transdiagnostic treatment can effectively alleviate anxiety, along with other present emotional disorders such as depressive disorder and emotion regulation difficulties.

This study has several limitations. First, the sample size was small, and the generalizability of the findings may be limited. Future studies with larger sample sizes are needed to replicate the results of the present study. Second, the personality disorders, which can influence the results, were not evaluated; third, no follow-up was conducted due to time constraints.

Conclusion

According to the findings of this study, the unified protocol as a short-term treatment is valid and can be considered a cost-effective treatment. Unified protocol focused on the underlying components can alleviate the symptoms of major depression and generalized anxiety and improve emotion regulation strategies for individuals with comorbid emotional disorders.

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