The Effectiveness of Transdiagnostic Therapy on Emotion Regulation Strategies of Patients with Emotional Disorders: A Randomized Clinical Trial

Mozhgan Lotfi [1], Maryam Bakhtiyari [1*], Ali Asghar Asgharnezhad Farid [2], Mehdi Amini [3]

1. Department of Clinical Psychology, Shahid Beheshti University of Medical Sciences, Tehran, Iran.
2. Department of Clinical Psychology, Tehran Psychiatric Institute, Iran University of Medical Sciences, Tehran, Iran.
3. Behavioral Sciences Research Center, Baqiyatallah University of Medical Sciences, Tehran, Iran.

ABSTRACT

Objective: An important concept for understanding emotional disorders is emotion regulation. The present study focuses on Effectiveness of Transdiagnostic Therapy on emotion regulation strategies of patients with emotional disorders in comparison with cognitive-behavior therapy.

Methods: This study was a pretest/posttest randomized control trial. A diagnostically heterogeneous clinical sample of 23 patients with a principal depression and anxiety disorders that randomly assigned in two groups (Transdiagnostic and CBT), and participated in eight sessions. Participants were recruited from clinical psychology and psychiatry clinics of Taleghani Hospital, Tehran, Iran. Cognitive Emotion Regulation Questionnaire (CERQ) and Positive and Negative Affect Scale (PANAS) were completed pre and post intervention by participants. The results were analyzed by dependent sample t test and analyses of covariance (ANCOVA).

Results: Transdiagnostic therapy resulted in significant improvement of the effectiveness and cognitive emotion regulation strategies. In addition, it is more effective for anxiety disorders in comparison to cognitive-behavior therapy.

Conclusion: Transdiagnostic treatment was confirmed in decreasing negative affects and negative cognitive emotion regulation strategies and improving positive affect and positive cognitive emotion regulation strategies in patients with depression and anxiety disorders, and was more effective than cognitive-behavior therapy for increased positive effects.

1. Introduction

I t's estimated that lifetime prevalence for anxiety disorders is 29% of the population and mood disorders is 21% (Kessler et al., 2005). There is considerable overlap among the various anxiety and mood disorders. At the diagnostic level, this is most evident in the high rates of current and lifetime comorbidity (Brown, Campbell, Lehman, Grisham, & Mancill, 2001; Kessler et al., 1996). Clearly, a number of treatment protocols utilizing cognitive-behavioral principles have been developed and then empirically-supported (Barlow, 2002;

Chambless & Ollendick, 2001; Norton & Price, 2007). Nevertheless, because the protocols are somewhat complex and clinicians must use separate handbooks and protocols for each disorder, it can take a significant amount of training to become adequately familiar with each of the distinct protocols (Barlow, Levitt, & Bufka, 1999). Considerable overlap among the various anxiety and mood disorders, articles argue for a more parsimonious approach to treating the emotional disorders. Unified protocol is effective approach for treating multiple problems within a single protocol (Barlow, Allen, & Choate, 2004; Fairburn, Cooper, & Shafran, 2003).

Transdiagnostic is emotion-focused cognitive-behavioral therapy designed for the full range of anxiety and other emotional disorders. Unified protocol of Transdiagnostic treatment consists of five treatment modules that target regulating of emotional experience: (1) present-focused emotion awareness (2) cognitive flexibility (3) emotion avoidance and emotion-driven behaviors (4) awareness and tolerance of physical sensations and (5) interceptive and situation-based emotion exposures (Barlow et al., 2004).

While the unified protocol is based on traditional cognitive-behavioral principles, its particular emphasis on emotion regulation is unique. An important concept for understanding emotional disorders is emotion regulation. Emotion regulation includes strategies individuals use to influence the occurrence, experience, intensity and expression of a wide range of emotions (Gross, 2007). Emotion regulation is an important factor to vulnerability to anxiety and mood disorders (Campbell-Sills & Barlow, 2007).

The emotion regulation through thoughts or cognitions that is known as cognitive emotion regulations helps people to manage their emotions after the experience of stressful events (Garnefski, Teerds, Kraaij, Legerstee, & Van Den Kommer, 2004). In the literature, nine conceptually different cognitive emotion regulation strategies were distinguished to negative cognitive emotion regulation strategies include: self-blame, other blame, rumination, catastrophizing. There is strong relationship between the use of these strategies and emotional disorders (Garnefski & Kraaij, 2006) and positive cognitive emotion regulation strategies include putting into perspective, positive refocusing, positive reappraisal, acceptance and planning (Garnefski et al., 2004). Patients with emotional disorders use maladaptive emotion regulation strategies.

The purpose of the present study is to investigate the effectiveness of Transdiagnostic therapy in regulating emotions on patients with depression and anxiety disorders, and compare the Transdiagnostic treatment to improve the levels of affectivity and cognitive emotion regulation strategies.

2. Methods

Participants

Participants were recruited from clinical psychology and psychiatry clinics of Taleghani Hospital, Tehran, Iran. Patients were randomly selected, and had to receive a principal diagnosis of mood or anxiety disorders. The following criteria were established for inclusion in the study: (a) age 18 or older (b) be fluent in Persian (c) be able to attend all treatment sessions and assessments and provide informed consent (d) don't have evidence of dementia or other neuro-

cognitive conditions that impair ability (e) don't have clinical conditions that require immediate treatment, suicidality and substance use disorders. Sixty of 88 patients were excluded from the trial; finally 28 patients were randomly assigned to the trial.

The Transdiagnostic group consisted of 4 males and 7 females (mean age=33.91, SD=7.51) and the CBT group included 4 males and 8 females (mean age=34.45, SD=6.63). The two groups did not differ in mean age (SD=2.96, t=0.15, P=0.99). Seven individuals were taking psychotropic medications at the time of enrollment and randomization and no medication changes were reported during the trial. No one individual had received prior psychological treatment for anxiety and depression. Principal diagnoses represented included generalized anxiety disorder (n=9), social anxiety disorder (n=4), panic disorder with agoraphobia (n=1), anxiety disorder not otherwise specified (NOS) (n=4) and major depressive disorder (n=5). One participant had co-principal diagnosis. Two of the 14 patients assigned to Transdiagnostic treatment group failed to complete it and three patients were randomized to CBT group failed to complete the treatment sessions.

Procedure

Treatment in the Transdiagnostic condition consisted of 8 weekly 45-minute sessions following unified protocol. The unified protocol consists of five core treatment modules: (a) increasing present-focused emotion awareness (b) increasing cognitive flexibility (c) identifying and preventing emotion sensations and (e) emotion-focused exposure (Allen, McHugh, & Barlow, 2008; Barlow, Ellard et al., 2011).

The first session was focused on motivation enhancement for treatment engagement and change. The second session emotional understanding was focused upon, and the third session cognitive reappraisals were trained. The focuses of fourth and fifth sessions were emotional avoidance and emotion-focused behaviors. And the content of sixth session was awareness and tolerance of physical sensations. The final two sessions were focused on introspective and situational emotion exposures (see Table 1). In the CBT condition, we conducted 8 weekly 45-minute sessions following cognitive-behavioral specific disorder manual.

Measures

Positive and Negative Affect Scale (PANAS)

The PANAS (Watson, Clark, & Tellegen, 1988) was included to assess levels of positive and negative affect across the disorders. The PANAS is 20-item self-report

Table 1. Transdiagnostic treatment protocol.

Session	Intervention
1	Help patients to explore the costs and benefits of changing versus remaining the same
2	Help patients to understand functional and adaptive nature of emotions and components of emotions
3	Help patients to practice cognitive reappraisal to increase flexibility in thinking
4	Help patients to identify their own emotional avoidance strategies
5	Help patients to identify maladaptive emotion-driven behaviors and develop alternative action tendencies
6	Help patients to understand the role of internal physical sensations
7, 8	Help patients to confront emotions through emotion exposure exercises

PRACTICE in
CLINICAL PSYCHOLOGY

measure of positive and negative effect. Respondents rate each emotion word on a scale ranging from 1 (very slightly or not at all) to 5 (extremely), indicating the extent to which they experienced that emotion or feeling during the past few weeks. The PANAS has shown excellent reliability and validity. Internal consistency for PANAS-P and PANAS-N was respectively 0.84 and 0.85, also test-retest reliability was respectively 0.82 and 0.80 (Bakhshipour Roudsari & Dezhkam, 2005).

Cognitive Emotion Regulation Questionnaire (CERQ):

The CERQ (Garnefski, Kraaij, & Spinhoven, 2002) is a multidimensional questionnaire constructed in order to identify the cognitive coping strategies someone uses after having experienced negative events or situations. The questionnaire consists of 36 items, each referring exclusively to what someone thinks and not to what someone actually does, when experiencing threatening or stressful life events. The items are divided up proportionally over the nine scales, so that all CERQ subscales consist of 4 items. Respondents rate on a five-point scale to which extent –'(almost) never' (1), to '(almost) always' (5) – to declare the use of certain cognitive coping strategies.

The CERQ distinguishes nine different cognitive coping strategies, of which, independent from one another, these are: self-blame, other blame, rumination, catastrophizing,

putting into perspective, positive Refocusing, positive Reappraisal, Acceptance and planning. The CERQ has shown excellent reliability and validity (Garnefski et al., 2002). Yousefi reported good reliability 0.82 (Yousefi, 2006).

The data of this study were analyzed by dependent sample T test to evaluate the effectiveness of Transdiagnostic treatment and CBT. In addition, we used analyses of covariance (ANCOVA) for comparison between two groups. Because subjects were non-randomly selected, pretest scores were analyzed as covariate. In addition, we use Independent T test to determine the pretreatment differences between two groups.

3. Results

This study was aimed to investigate the effect of Transdiagnostic therapy on cognitive emotion regulation strategies of patients with emotional disorders and compared it to cognitive-behavior therapy. In the first step of the data analysis, we checked the differences between two groups in mean age and gender ratio. The results showed that groups did not differ in mean age (t=0.5, P=0.99) and gender ratio (X^2=0.02, P=0.88). Independent t-test was used to compare the means in variables in pretreatment. The results showed that there was no significant difference between groups in positive cognitive emotion regulation (t=0.49, P=0.053), negative cognitive emotion regulation

Table 1. Analyses of pre & post-test of Transdiagnostic treatment using dependent t-tests.

Measures	M (SD) pre	M (SD) post	M (SD) dif	t (P)
PANAS-NA	23.33 (1.92)	18.91 (2.99)	4.41 (1.67)	9.12 (0.001)
PANAS-PA	19.91 (2.19)	25.83 (2.20)	-5.91 (1.50)	-13.61 (0.001)
CERQ-NS	13.64 (1.49)	10.47 (1.19)	3.16 (1.44)	7.49 (0.001)
CERQ-PA	8.81 (0.81)	10.35 (0.84)	-1.53 (0.59)	-8.95 (0.001)

PRACTICE in
CLINICAL PSYCHOLOGY

Table 2. Analyses of pre & post-test of CBT using dependent t-tests.

Measures	M (SD) pre	M (SD) post	M (SD) dif	t (P)
PANAS-NA	24.63 (2.37)	19.36 (1.56)	5.27 (2.14)	6.71 (0.001)
PANAS-PA	21.54 (3.14)	23.72 (2.32)	-2.18 (1.94)	-0.87 (0.004)
CERQ-NS	13.96 (1.49)	11.01 (1.19)	2.95 (1.40)	7.50 (0.001)
CERQ-PA	9.07 (1.57)	11.10 (1.58)	-2.03 (1.47)	-4.58 (0.001)

Note: M (SD) pre=Mean (Standard Deviation) Pre-test; M (SD) post=Mean (Standard Deviation) post-test; M (SD) dif=Mean (Standard Deviation) Difference; t (p)=t test (Significance).

(t=-0.01, P=0.31), positive affect (t=1.45, P=0.26) and negative affect (t=1.45, P=0.67).

In order to evaluate the effectiveness of Transdiagnostic therapy on cognitive emotion regulation strategies, we use dependent t-test. The results that are presented in table 1 show that the Transdiagnostic therapy demonstrated significant reduction on negative cognitive emotion regulation strategies (t=7.49, P=0.001) and negative affect (t=9.12, P=0.001) and promotion on positive cognitive emotion regulation strategies (t=-8.95, P=0.001) and positive affect (t=-13.61, P=0.001).

Table 2 presents the participants pre and post treatment CERQ and PANAS scores. It shows that CBT resulted in significant reduction on negative cognitive emotion regulation strategies (t=7.50, P=0.001), negative affect (t=6.71, P=0.001), promotion on positive cognitive emotion regulation strategies (t=-4.58, P=0.001) and positive affect (t=-0.87, P=0.004). Analysis of covariance (ANCOVA) was conducted in order to evaluate the clinical significance of the effects at post-treatment between two groups (table 3). Transdiagnostic treatment was effective in increasing positive affect (F=23.77, P=0.001). Compared to CBT with eta square (η^2=0.54), there was no significant difference between two groups in reducing negative affect (F=0.39, P=0.53).

The results also show there was no significant difference between two groups in reducing negative cognitive emotion regulation strategies (F=0.002, P=0.96) and an increase on positive cognitive emotion regulation strategies (t=1.97, P=0.17).

4. Discussion

Patients with emotional disorders experience negative emotions extremely stronger compared to normal people we studied negative and positive affect in this study in this manner. The results of current study showed that treatment with Transdiagnostic approach resulted in significant reduction in negative affectivity as well as significant increase in positive affectivity.

In addition, in comparison to CBT, its superiority is just in the increase of positive affectivity and unified protocol effects on positive affectivity. And they are somewhat larger than those of negative affectivity. Transdiagnostic treatment emphasizes that emotions are not necessarily "bad" or "dangerous" although they can sometimes feel that way. In unified protocol, negative affectivity is adaptive and functional and the emphasis is instead placed on the affective reactions toward negative emotions, not negative emotions themselves.

The findings of current study is consistent with Farchione et al. (2012) that showed Transdiagnostic effects for positive affectivity are larger than those of negative affectivity (Farchione et al., 2012). Ellard et al. (2010) article about unified protocol for the trans-diagnostic treatment of emotional disorders revealed that unified protocol resulted in a significant effect on negative affectivity, but not on positive affectivity. Although the effect size for positive affect was also large and treatment effects at 6-month follow up was permanent (Ellard, Fairholme, Boisseau, Farchione, & Barlow, 2010). Sauer-Zavala et al. (2012) showed that Transdiagnostic treatment resulted in significant reduction in negative affectivity (Sauer-Zavala et al., 2012).

Table 3. Descriptive statistics and ANCOVAs of PANAS and CERQ.

Measures	Transdiagnostic		CBT				
	M	SD	M	SD	F	P	η^2
PANAS-NA	18.91	2.99	19.36	1.56	0.39	0.53	0.01
PANAS-PA	25.83	2.20	23.72	2.32	23.77	0.001	0.54
CERQ-NS	10.47	1.19	10.45	1.19	0.002	0.96	0.001
CERQ-PA	10.35	0.84	11.10	1.58	1.97	0.17	0.09

Note: M=Mean; SD=Standard deviation; N=Frequency; P=Significance; η^2=Partial eta squared.

In addition, unified protocol emphasizes on reducing avoidance of positive emotions and thereby encourages positive emotional experiences.

One of the purposes of the present study was to investigate the effect of Transdiagnostic treatment on cognitive emotion regulation strategies. The results of dependent t-test support improving positive cognitive emotion regulation strategies and reduction of negative cognitive emotion regulation strategies. Results of ANCOVA showed that Transdiagnostic treatment and CBT are statistically equivalent and significantly efficient. Unified protocol emphasizes on the way individuals confront and experience emotions and teaches them to respond to their emotions in more adaptive ways.

By modifying patient's emotion regulation strategies, unified protocol aims to reduce the intensity and incidence of maladaptive emotional experience and improve functioning (Barlow et al., 2011). Garnefski et al. (2006) revealed that there is relationship between cognitive emotion regulation strategies and symptoms of depression (Garnefski & Kraaij, 2006). Fehlinger et al. (2013) revealed that emotion regulation is the essential skill influencing depressive symptoms improvement (Fehlinger, Stumpenhorst, Stenzel, & Rief, 2013). Therefore, Transdiagnostic treatment focuses on emotion regulation strategies.

Future studies applying Transdiagnostic interventions in a variety of samples such as children, adolescents, and elderly and in different areas, hospitals and clinics are recommended. Furthermore, a long-term follow up for outcomes of Transdiagnostic therapy is suggested. Finally, it seems that Transdiagnostic interventions need to do more investigations in order to compare specific intervention and the other disorders with unified protocol.

Acknowledgements

References

Allen, B. A., McHugh, R. K., & Barlow, D. H. (2008). Emotional Disorders: A unified approach. In D. H. Barlow (Ed.), *Clinical handbook of psychological disorders: A step-by-step treatment manuals* (pp. 216-249). New York: Guilford Press.

Bakhshipour Roudsari, A., & Dezhkam, M. (2005). Confirmatory Factor Analysis of Positive and Negative Scale. *Journal of Psychology*, *9*(36), 351-365.

Barlow, D. H. (2002). *Anxiety and its disorders: The nature and treatment of anxiety and panic* (2nd ed.). New York: Guilford Press.

Barlow, D. H., Ellard, K. K., Fairholme, C. P., Farchione, T. J., Boisseau, C. L., Allen, L. B., & et al. (2011). *The unified protocol for transdiagnostic treatment of emotional disorders: Client workbook.* New York: Oxford University Press.

Barlow, D. H., Allen, L. B., & Choate, M. L. (2004). Toward a unified treatment for emotional disorders. *Behavior Therapy, 35*(2), 205-230. doi: 10.1016/s0005-7894(04)80036-4.

Barlow, D. H., Levitt, J. T., & Bufka, L. F. (1999). The dissemination of empirically supported treatments: A view to the future. *Behavior research and therapy, 37*(1), 147-162. doi: 10.1016/j.cbpra.2009.09.003.

Brown, T. A., Campbell, L. A., Lehman, C. L., Grisham, J. R., & Mancill, R. B. (2001). Current and lifetime comorbidity of the DSM-IV anxiety and mood disorders in a large clinical sample. *Journal of Abnormal Psychology, 110*(4), 585-599.

Campbell-Sills, L., & Barlow, D. H. (2007). Incorporating emotion regulation into onceptualizations and treatments of anxiety and mood disorders. In J. J. Gross (Ed.), *Handbook of Emotion Regulation* (pp. 542-559). New York: Guilford Press.

Chambless, D. L., & Ollendick, T. H. (2001). Empirically supported psychological interventions: Controversies and Evidence. *Annual Review of Psychology, 52*(1), 685–716.

Ellard, K. K., Fairholme, C. P., Boisseau, C. L., Farchione, T. J., & Barlow, D. H. (2010). Unified Protocol for the Transdiagnostic Treatment of Emotional Disorders: Protocol Development and Initial Outcome Data. *Cognitive and Behavioral Practice, 17*(1), 88-101. doi: 10.1016/j.cbpra.2009.06.002.

Fairburn, C. G., Cooper, Z., & Shafran, R. (2003). Cognitive behaviour therapy for eating disorders: A "transdiagnostic" theory and treatment. *Behaviour Research and Therapy, 41*(5), 509-528. doi: 10.1016/s0005-7967(02)00088-8.

Farchione, T. J., Fairholme, C. P., Ellard, K. K., Boisseau, C. L., Thompson-Hollands, J., Carl, J. R., Barlow, D. H., & et al. (2012). Unified Protocol for Transdiagnostic Treatment of Emotional Disorders: A Randomized Controlled Trial. *Behavior Therapy, 43*(3), 666-678. doi: 10.1016/j.beth.2012.01.001.

Fehlinger, T., Stumpenhorst, M., Stenzel, N., & Rief, W. (2013). Emotion regulation is the essential skill for improving depressive symptoms. *Journal of Affective Disorders, 144*(1–2), 116-122.

Garnefski, N., Kraaij, V., & Spinhoven, P. (2002). *Manual for the use of the Cognitive Emotion Regulation Questionnaire, A questionnaire measuring cognitive coping strategies*. The Netherlands: Leiderdorp.

Garnefski, N., & Kraaij, V. (2006). Relationships between cognitive emotion regulation strategies and depressive symptoms: A comparative study of five specific samples. *Personality and Individual Differences, 40*(8), 1659-1669.

Garnefski, N., Teerds, J., Kraaij, V., Legerstee, J., & van den Kommer, T. (2004). Cognitive emotion regulation strategies and depressive symptoms: differences between males and females. *Personality and Individual Differences, 36*(2), 267-276.

Gross, J. J. (Ed.). (2007). *Handbook of Emotion Regulation*. New York: Guilford Press.

Kessler, R. C., Nelson, C. B., McGonagle, K. A., Lui, J., Swartz, M., & Blazer, D. G. (1996). Comorbidity of DSM-III-R major depressive disorder in the general population: Results from the National Comorbidity Survey. *British Journal of Psychiatry, 168*(3), 17-30. doi: 10.1016/j.cbpra.2011.06.002.

Kessler, R. C., Berglund, P., Demler, O., Jin, R., Merikangas, K., & Walters, E. E. (2005). LIfetime prevalence and age-of-onset distributions of dsm-iv disorders in the national comorbidity survey replication. *Archives of General Psychiatry, 62*(6), 593-602.

Norton, P. J., & Price, E. P. (2007). A meta-analytic review of cognitive-behavioral treatment outcome across the anxiety disorders. *Journal of Nervous and Mental Disease, 195*(6), 521-531.

Sauer-Zavala, S., Boswell, J. F., Gallagher, M. W., Bentley, Kate H., Ametaj, A, & Barlow, D. H. (2012). The role of negative affectivity and negative reactivity to emotions in predicting outcomes in the unified protocol for the transdiagnostic treatment of emotional disorders. *Behaviour Research and Therapy, 50*(9), 551-557.

Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and Validation of Brief Measures of Positive and Negative Affect: The PANAS Scales. *Journal of Personality and Social Psychology, 54*(6), 1063-1070.

Yousefi, F. (2006). The relation between cognitive emotion regulation and anxiety and depression in children. *Research in Special Children*, 22, 871-892.