A Preliminary Examination of the Effects of Transdiagnostic Versus Single Diagnosis Protocols on Anger During the Treatment of Anxiety Disorders

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Abstract: Dysregulated anger is often present in the emotional (*i.e.*, anxiety, mood, and related) disorders; however, it is rarely targeted in treatment. Transdiagnostic treatments, which focus on processes that contribute to dysregulated emotions across the range of psychopathology, might represent an efficient way to treat this anger. Using a subset of data from a recently completed equivalency trial comparing the Unified Protocol for Transdiagnostic Treatment of Emotional Disorders (UP) to single diagnosis protocols (SDPs) for specific disorders, this study began exploring whether the UP led to great reductions in anger compared with the SDPs. Results indicated that there was a small, nonsignificant, decrease in anger in the UP condition, whereas there was a moderate, nonsignificant increase in anger in the SDP condition. At posttreatment, UP patients had significantly lower anger scores than patients who received an SDP. These preliminary results suggest that transdiagnostic treatments may be well poised to target dyregulated anger in the context of emotional disorders.

Key Words: Anger, emotional disorders, cognitive-behavioral therapy, transdiagnostic treatment

(*J Nerv Ment Dis* 2018;206: 549–554)

In recent years, transdiagnostic conceptualizations of psychopathology and treatment have gained prominence (*e.g.*, Brown & Barlow, 2009; Sauer-Zavala et al., 2017), representing a shift from categorical classification systems such as the *Diagnostic and Statistical Manual of Mental Disorders*, *Fifth Edition* (*DSM-5*; American Psychiatric Association, 2013). Specifically, transdiagnostic perspectives emphasize shared vulnerabilities that account for the development and maintenance of a variety of conditions. For example, the term "emotional disorder" is often used to describe a range of depressive, anxiety, and related disorders (*e.g.*, trauma-related disorders, obsessive-compulsive disorder [OCD], and borderline personality disorder [BPD]; Sauer-Zavala & Barlow, 2014). A functional model of emotional disorders suggests that they are maintained by aversive reactions to the experience of frequent and intense emotions, including perceptions that such experiences are unacceptable and/or uncontrollable (neuroticism; Barlow et al., 2014;
Cassiello-Robbins et al., in preparation). These aversive reactions, in turn, lead to efforts to escape the emotional experience through the use of avoidance strategies that reduce distress in the short-term but paradoxically maintain it in the long-term (Campbell-Sills & Barlow, 2007; Sauer-Zavala & Barlow, 2014). This model has largely been applied to the experience of anxiety and depression, although may be relevant for a broader range of emotions.

Like all emotions, anger has an adaptive function; it can alert an individual to a potential threat (*e.g.*, being treated unfairly) or blocked goal, and motivate defensive, protective, or goal-directed behavior (Harmon-Jones & Harmon-Jones, 2016). Also, like other emotions, anger becomes dysregulated when it ceases to motivate behavior that serves an individual's long-term interests, instead prompting actions that are interfering and distressing. From a theoretical standpoint, this dysregulated anger fits into the model of emotional disorders (Sauer-Zavala & Barlow, 2014). That is, an individual can experience anger, have an aversive reaction to it, and subsequently engage in attempts to escape or avoid this emotion. These attempts may result in a variety of maladaptive methods of anger expression including externalizing behavior (*e.g.*, yelling, breaking objects) or internalizing behavior (*e.g.*, suppression) that interfere with the patient's daily life. For example, research suggests that efforts to suppress an unwanted thought can lead to its continued persistence as well as increased negative affectivity (Davies & Clark, 1998). Thus the suppression of unwanted, angry, thoughts may actually lead to increased anger, although it reduces the patient's anger in the short-term.

Despite these similarities, dysregulated anger is often under recognized and underexplored in the context of emotional disorders (for a review see Cassiello-Robbins & Barlow, 2016). This is especially troubling given that the presence of such anger in these disorders is associated with a number of notable consequences including greater disorder severity and higher levels of comorbidity (*e.g.*, Cassiello-Robbins & Barlow, 2016). In the context of treatment, elevated anger in emotional disorders is associated with lower engagement, higher likelihood of attrition (*e.g.*, Cassiello-Robbins et al., 2015; Wnuk et al., 2013) and a poorer treatment outcome (Erwin et al., 2003; Fava et al., 1991; Rosen et al., 2001).

These findings highlight the importance of understanding and effectively treating dysregulated anger in this context. Given that it fits theoretically into the model of emotional disorders, treatment principles that intervene on this model might also be effective for targeting dysregulated anger. The Unified Protocol for the Transdiagnostic Treatment of Emotional Disorders (UP; Barlow et al., 2011a; 2018) has begun to gather evidence as an efficient intervention for a range of co-occurring emotional disorders. In contrast to single diagnosis protocols (SDPs) that are designed to target individual disorders (*i.e.*, panic disorder [PD], social anxiety, etc.), the UP purports to target the core mechanism believed to underlie these disorders—aversive, avoidant reactions to emotions. The UP targets this process by educating patients about the adaptive nature of emotions to cultivate a willing and accepting attitude toward experiencing them. In this cognitive-behavioral therapy (CBT) protocol, patients are taught strategies to modify faulty emotion regulation, including mindful awareness of emotions, cognitive flexibility, and reduction in the use of safety behaviors. They also engage in emotion exposures. Throughout, all treatment strategies are used to emphasize the adaptive nature of emotions and encourage patients to approach and experience their emotions to decrease reliance on avoidance-based emotion regulation strategies. The implementation of these skills is

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ISSN: 0022-3018/18/20607–0549
DOI: 10.1097/NMD.0000000000000834

thought to facilitate the extinction of distress in response to the experience of strong emotions.

The UP has shown promising results in the treatment of anxiety disorders (PD, generalized anxiety disorder [GAD], social anxiety disorder [SOC], and OCD; Ellard et al., 2010; Farchione et al., 2012), as well as major depressive disorder (Boswell et al., 2014; Ellard et al., 2010; Farchione et al., 2012), bipolar disorder (Ellard et al., 2012), posttraumatic stress disorder (Gallagher, in press), and BPD (Lopez et al., 2015; Sauer-Zavala et al., 2016). Notably, anger is a diagnostic criterion for BPD and the success of the UP in this context might suggest that its treatment principles can be applied to this emotion. However, in prior studies of the UP for BPD, outcomes related to anger were not specifically examined. Recently, a large randomized controlled trial was conducted examining whether the UP is at least as efficacious at treating heterogeneous anxiety disorders (PD with or without agoraphobia, GAD, SOC, and OCD) as evidence-based criterion standard SDPs. In this study, patients were randomly assigned to receive the UP, SDP, or waitlist control condition. The results indicated that the efficacy of the UP for anxiety disorders was equivalent to the SDPs with less attrition (Barlow et al., 2017). This accumulating evidence supports the idea that the UP can effectively treat dysregulated fear, anxiety, and depression; however, its effect on other dysregulated emotions has yet to be examined.

Thus, the current study sought to explore patterns of change in anger during treatment by conducting an initial evaluation of the effects of CBT in general and the UP specifically on anger. The aims of the current study were 1) to replicate the current literature regarding the associations of dysregulated anger with greater symptom severity (using patients in all study conditions) and lower likelihood of responding to treatment (for patients who received treatment), 2) to examine whether anger changed in CBT for anxiety disorders within each treatment condition (UP and SDP conditions), and 3) to examine whether individuals receiving the transdiagnostic treatment (UP) evidenced greater reductions in anger than those receiving SDP treatment. We predicted that anger would be associated with greater symptom severity and lower likelihood of responding to treatment, that CBT would be associated with reductions in anger, and that the UP would be associated with larger reductions in anger than SDPs due to its broader focus on emotion regulation.

METHODS

Participants

Thirty-five patients were drawn from a larger (n = 223; Barlow et al., 2017) treatment trial conducted at the Boston University Center for Anxiety and Related Disorders. Participants were included in the present study if they completed all measures relevant to the proposed analyses. As the PANAS hostility subscale (see *Measures*) was a late addition to the larger trial, a smaller subset of eligible patients (35) completed this measure. In addition, the following inclusion criteria were required for participation in the larger study and, by extension, the present study: principal (most interfering and distressing) diagnosis of PD, GAD, OCD, or SOC, assessed using the Anxiety Disorders Interview Schedule (ADIS; Di Nardo et al., 1994); 18 years of age or older; fluent in English; and able to attend all treatment sessions and assessments. Stability on psychotropic medication for at least 6 weeks before enrolling in the study and willingness to refrain from making any medication changes during treatment was also required. Exclusion criteria were mostly conditions warranting immediate or simultaneous treatment that could interact with the study treatment in unknown ways (*e.g.*, current diagnosis bipolar disorder, schizophrenia, schizoaffective disorder, or organic mental disorder, imminent suicide risk, recent history of substance abuse or dependence). Participants who attended eight or more CBT sessions within the past 5 years were also excluded.

The average age of patients included in the present study was 31.3 (SD = 11.0) and approximately half the sample was male (n = 18). The majority of the patients (n = 33) identified as white, one as Asian, and one as Black or African-American. The most common principal diagnosis was PD (n = 18), followed by OCD (n = 16), and GAD (n = 1), with an average CSR representing "moderate" to "severe" impairment from this diagnosis (M = 5.77, SD = 0.81). Patients had an average of 3.05 comorbid diagnoses (SD = 1.61). The most common comorbid diagnoses were GAD (n = 14), SOC (n = 9), and posttraumatic stress disorder (n = 3). Of these 35 patients, 10 patients were in the waitlist condition, 11 were in the SDP condition, and 14 were in the UP condition.

Measures

Anxiety Disorders Interview Schedule (ADIS; Brown & Barlow, 2014). Patients were assessed for current DSM diagnoses using the ADIS, a semistructured diagnostic clinical interview, by study evaluators blinded to condition allocation. Diagnoses are assigned a clinical severity rating (CSR) on a scale from 0 (no symptoms) to 8 (extremely severe symptoms), with a rating of 4 or above (definitely disturbing/disabling) passing the clinical threshold. All patients whose data were included in this study's analyses were evaluated using *DSM-5* criteria.

Overall Anxiety Severity and Impairment Scale (OASIS; Norman et al., 2006). The OASIS is a brief, 5-item questionnaire developed as a continuous measure of anxiety-related symptom severity and impairment. Each item is rated on a 5-point scale and higher scores are indicative of greater severity and impairment. Psychometric studies have shown the OASIS to have excellent internal consistency and test-retest reliability, as well as convergent and discriminant validity among outpatients (*e.g.*, Campbell-Sills et al., 2009; Norman et al., 2013).

Overall Depression Severity and Impairment Scale (ODSIS; Bentley et al., 2014). The ODSIS is a brief, 5-item questionnaire developed as a continuous measure of depressive-related symptom severity and impairment. Items are rated on a 5-point scale, with higher total scores indicating higher levels of depression. The ODSIS demonstrated excellent internal consistency and convergent and discriminant validity in its initial validation and was shown to discriminate between patients with and without a depressive disorder (Bentley et al., 2014).

The Positive and Negative Affective Schedule-Expanded Form, Hostility Subscale (PANAS-X; Watson & Clark, 1999). The PANAS is a well-established measure of positive and negative affect, and inquired to what extent patients experienced various emotions in general. This time frame assesses the extent to which an emotion is a trait of an individual's affect. The hostility subscale captures how much someone feels angry, hostile, irritable, scornful, disgusted, and loathing, and thus was used in this study as a measure of anger intensity. Of note, this subscale measures hostility as a normally distributed trait, and not a pathological condition. This subscale has demonstrated good psychometric properties in many prior studies, including internal consistency and stability over time (α = 0.85; *e.g.*, Crawford & Henry, 2004; Watson et al., 1988). Given the preliminary nature of this study, and the need to minimize patient burden in a large clinical trial, this measure was chosen because it was the most parsimonious measure carrying strong psychometric support.

Eysenck Personality Questionnaire Revised–Short-Form (EPQR-S; Eysenck & Eysenck, 1975; Eysenck et al., 1985). The EPQR-S is a 24-item questionnaire assessing temperament, namely, dimensions of extraversion, neuroticism, and psychoticism, as well as a lie scale. The EPQR-S has demonstrated good internal consistency, test-retest reliability, and concurrent validity (Francis et al., 1992).

Procedures

The Boston University institutional review board approved all study procedures and written informed consent was obtained from patients before participation. The larger trial consisted of 16 sessions of an acute treatment phase (12 sessions for patients with a principal diagnosis of PD) or 16-week waitlist control (WLC), followed by a 6-month

follow-up phase (in which WLC patients did not participate). The acute treatment phase was limited to a maximum of 21 weeks (16 weeks for PD). Patients were randomized by principal diagnosis with a 2:2:1 allocation ratio to UP, SDP, and WLC study conditions, respectively. The study coordinator was blind to these assignments until after each participant completed the diagnostic evaluation that determined final study eligibility.

Interventions

Unified Protocol for Transdiagnostic Treatment of Emotional Disorders

The UP was delivered in accordance with the published therapist guide (Barlow et al., 2011a) and client workbook (Barlow et al., 2011b). This treatment consists of five core treatment modules: mindful emotion awareness (Module 3), cognitive flexibility (Module 4), countering emotional behaviors (Module 5), understanding and confronting physical sensations (Module 6), and emotion exposures (Module 7). Patients also received 2 introductory modules focused on goal setting and maintaining motivation (Module 1), and psychoeducation on the adaptive nature of emotions (Module 2), as well as a final relapse prevention module (Module 8).

Single Diagnosis Protocols

The SDPs included Managing Social Anxiety: A Cognitive-Behavioral Therapy Approach, Second Edition (MSA-II; Hope et al., 2000, 2006); Mastery of Your Anxiety and Panic, Fourth Edition (MAP-IV; Barlow & Craske, 2000; Barlow & Craske, 2006); Mastery of Your Anxiety and Worry, Second Edition (MAW-II; Zinbarg et al., 1994; Zinbarg et al., 2006); and Treating Your OCD with Exposure and Response (Ritual) Prevention Therapy, Second Edition (Foa & Kozak, 2004; Kozak & Foa, 1997; Foa et al., 2008). Consistent with recommendations by the SDP treatment developers, patients with a principal diagnosis of SOC, GAD, or OCD received 16 sessions of SDP or UP treatment and patients with a principal diagnosis of PD received 12 sessions of SDP or UP treatment. Treatment sessions were approximately 50 to 60 minutes with the exception of 80 to 90 minutes for patients with a principal diagnosis of OCD.

Study therapists administered both the UP and SDP treatments as part of the trial. Therapists were doctoral students in clinical psychology, postdoctoral fellows, and licensed clinical psychologists with training and certification in the treatment protocols utilized (Barlow et al., 2000). Twenty percent of treatment sessions were randomly selected and rated for adherence and competence by raters associated with the development of the specific treatments. Treatment fidelity scores were good to excellent (mean: UP = 4.44; SDPs = 4.09 of 5).

RESULTS

Analyses were conducted in SPSS 20.0. Item-level imputation, in which the mean of a participant's responses was substituted for the missing value, was used when 30% or fewer of the items on a given scale were unanswered (Ake, 2005; Fox-Wasylyshyn & El-Masri, 2005; Roth et al., 1999). Listwise deletion was used when more than 30% of the items were missing. The data were normally distributed and thus parametric statistics were used.

Associations With Anger at Baseline

Chi-square tests indicated that there were no significant differences between the three study conditions (UP, SDP, WLC) on the following demographic variables: sex (χ^2 (2) = 1.95, p = 0.377), race (χ^2 (2) = 5.30, p = 0.258), ethnicity (χ^2 (2) = 0.89, p = 0.64), and principal diagnosis (χ^2 (2) = 2.01, p = 0.734). A one-way ANOVA yielded no differences between conditions with regard to patients' age (F(2) = 1.50, p = 0.238) or principal diagnosis CSR (F(2) = 1.34, p = 0.99).

The descriptive statistics for all measures can be seen in Table 1. Overall, the average level of anger in the study sample (M = 11.23, SD = 4.03) was within one standard deviation of that observed in the mixed inpatient/outpatient validation sample (M = 14.4, SD = 4.8; Watson & Clark, 1999). Chi-square analysis revealed no significant difference in anger based on sex (χ^2 (12) = 10.31, p = 0.589). Differences in level of anger based on race and ethnicity could not be examined due to a lack of power, as only two patients identified as Hispanic and/or non-white. A Pearson correlation showed no significant relationship between age and anger (r (35) = 0.22, p = 0.198).

Correlations were also used to examine the associations between anger and symptom severity. As seen in Table 1, and consistent with our hypotheses, higher levels of anger were significantly associated with greater overall depression and anxiety severity, greater severity of the principal diagnosis, and higher levels of neuroticism at baseline.

Relationship Between Treatment Response and Anger

For all remaining analyses, data were used only from those patients who received and completed active treatment (UP (n = 12) or SDP (n = 6) conditions). Differential attrition was characteristic of the full sample (see Barlow et al., 2017). As we have already established relationships between baseline anger and symptom severity, and with the knowledge that symptom severity may account for some of the variance in predicting response to treatment, we controlled for baseline symptom severity using a patient's baseline CSR score for their primary diagnosis in the following logistic regression analyses. To aid in interpretation, we standardized the anger variable (M = 0, SD = 1). When predicting responder status (defined as having a subclinical CSR rating for the primary diagnosis), controlling for baseline severity, a test of the full model against an intercept-only model was statistically significant indicating that the predictors (baseline symptom severity and anger) as a set reliably distinguished between patients who did and did not respond to treatment (χ^2 (1) = 5.58, p = 0.018). The Wald criterion demonstrated that anger significantly predicted the likelihood of responding to treatment above and beyond the variance predicted by baseline symptom severity (p = 0.042). Odds ratios indicated that when patients presented to treatment with one standard deviation above the mean on anger, their

TABLE 1. Intercorrelations, Means, and Standard Deviations for Study Variables at Baseline

Measure	1	2	3	4	5	n	Mean (SD)
1. PANAS Anger	-					35	11.23 (4.03)
2. OASIS	0.44**	—				35	9.51 (3.75)
3. ODSIS	0.52**	0.63**	—			35	4.40 (4.94)
4. Principal Diagnosis CSR	0.67**	0.60**	0.50**	—		35	5.77 (.81)
5. EPQR-S Neuroticism	0.50**	0.62**	0.55**	0.45**	—	35	7.74 (2.58)

*p < 0.05; **p < 0.01.

TABLE 2. Means and Standard Deviation of Anger Scores by Group at Baseline and Posttreatment

Group	Baseline Mean (SD)	Posttreatment Mean (SD)
UP (n = 12)	10.33 (3.65)	9.83 (3.74)
SDP (n = 6)	11.17 (2.93)	12.67 (3.67)

UP indicates Unified Protocol treatment group; SDP, single diagnosis protocol treatment group.

likelihood of responding was 17% lower (odds ratio, 0.17; 95% confidence interval [CI], 0.03–0.94).

Change in Anger During Treatment

An independent samples t-test indicated that there was not a significant difference in anger level between the UP and SDP conditions at baseline ($t(16) = -0.48$, $p = 0.635$). In addition, the average anger level in each condition (Table 2) was within one standard deviation of that observed in the validation sample, using inpatients and outpatients, suggesting that the level of anger reported in this sample is characteristic of that observed in patients with heterogeneous psychological disorders (Watson & Clark, 1999). Contrary to our predictions, a paired samples t-test indicated that anger did not significantly change over the course of treatment ($t(17) = -0.35$, $p = 0.733$) in the overall sample of patients who received active treatment (UP and SDP combined).

Next, one-way analysis of covariance (ANCOVA) was conducted to compare posttreatment anger levels between the two treatment conditions while controlling for baseline anger. Levene's test indicated equal variances between the two treatment groups ($F(1,16) = 0.05$, $p = 0.82$). Results of the ANCOVA suggested that there was a significant difference in posttreatment anger scores between the two treatments ($F(1, 17) = 4.62$, $p = 0.048$). A comparison of the estimated marginal means showed that patients in the UP had lower anger scores at posttreatment ($M = 10.09$, $SE = 0.55$) than those in the SDPs ($M = 12.15$, $SE = 0.78$).

As seen in Table 2, anger level decreased slightly, on average, in the UP condition and increased in the SDP condition. This change appeared to be independent of changes in symptom severity as a chi-square test indicated that there were a similar number of responders in the UP and SDP conditions ($\chi^2(1) = 0.62$, $p = 0.42$). To explore the magnitude of the changes in anger, effect sizes (Standardized Mean Gain, *ESsg*) were calculated from pretreatment to posttreatment within each condition. This effect size was chosen because it includes a correction for repeated measurements (Laken, 2013). Effect sizes were interpreted conservatively with 0.2, 0.5, and 0.8 representing small, medium, and large effects respectively (Cohen, 1988). Within the UP condition, there was a small, nonsignificant, decrease in anger (*ESsg* = − 0.14; *SEsg* = 0.15; 95% CI, −0.43 to 0.16). In the SDP condition, this effect size indicated a moderate, nonsignificant increase in anger (*ESsg* = 0.42; *SEsg* = 0.23; 95% CI, −0.04 to 0.87]). This result was unexpected, as one might predict that treatment would be associated with a decrease in anger in both conditions. However, an examination of each individual participant's scores showed that 5 of the 6 patients in the SDP condition reported an increase in anger over the course of treatment. In the UP condition, 5 of 12 patients showed a decrease (41.7%), 5 showed no change, and 2 showed an increase in anger over the course of treatment.

DISCUSSION

The overarching goal of the present study was to conduct an initial evaluation examining patterns of change in anger during CBT treatments for emotional disorders. First, we sought to replicate existing literature suggesting that anger is associated with greater emotional disorder symptom severity and predicts poorer treatment response. Consistent with our hypotheses, anger was significantly related to depression and anxiety symptoms, severity of the principal diagnosis, and neuroticism at baseline. Given that the level of anger in this sample was in line with the mean of a clinical sample, this result highlights the strong effects anger can have for patients, even when within the average range. In addition, collapsed across active treatment conditions, anger at baseline was also associated with poorer prognosis at posttreatment. Given that anger is a potentially modifiable pretreatment characteristic that predicts poorer outcomes, these results suggest that it may be important for clinicians to assess the propensity to experience this emotion and, if elevated, address it in treatment.

An additional goal of the present study was to take an initial look at the extent to which anger levels decrease during a course of CBT focused on anxiety disorders. Collapsed across conditions, anger did not change significantly from pretreatment to posttreatment. In addition, while anger appeared to decrease in the UP condition and increase in the SDP condition, these results were nonsignificant. However, there was a significant difference in anger between the 2 conditions at posttreatment such that patients in the UP condition had lower anger scores than those who received SDPs. Interestingly, the UP and SDP conditions had a comparable number of treatment responders in terms of anxiety symptom severity. Taken together, these findings suggest that anger may respond differently to distinct interventions and lends preliminary support to the notion that an emotion-focused, transdiagnostic approach to emotional disorders may be an effective and efficient way to address co-occurring anger when it is present. However, due to the small sample size, these results should be interpreted with caution and require replication in addition to further exploration.

These findings have the potential to contribute to the field's approach to treating dysregulated anger, particularly in the context of emotional disorders. Extant treatments that target this emotion have primarily been evaluated in the context of individuals for whom anger is the primary problem (*e.g.*, inmates, spousal abusers, perpetrators of road rage). Unfortunately, meta-analytic results suggest that although anger-focused CBT may indeed address anger, it has limited impact on anxiety and depression (DiGiuseppe & Tafrate, 2003). This may be problematic given the high prevalence of anger in the context of emotional disorders (see Cassiello-Robbins & Barlow, 2016), described in detail previously. In contrast, the UP addresses the range of emotional disorders by targeting interfering emotional experiences more broadly, rather than concentrating on the circumscribed emotions relevant for a single presentation (*e.g.*, focusing on fear in PD). Transdiagnostic treatments like the UP are in line with the framework provided by the National Institute of Mental Health's Research Domain Criteria, which supports the use of psychological treatments that target core deficits appearing across a range of disorders (Insel et al., 2010). The UP is specifically in line with this initiative because the model of emotional disorders on which it intervenes is derived from converging cognitive and affective neuroscience, behavioral, and physiological, and genetic data that support the presence of the core vulnerabilities targeted by this treatment (*i.e.*, aversive, avoidant reactions to strong emotions; Wilamowska et al., 2010). This approach allows for the flexible application of a single set of skills that are relevant to all dysregulated emotional experiences, thus making it useful for targeting dyregulated anger when clinically indicated.

Specifically, the UP targets aversive, avoidant reactions to emotions that paradoxically increase their frequency and intensity in the long-term. While this model has primarily been evaluated in the context of anxiety, fear, and depression, there is theoretical evidence to suggest that it may also be appropriate for dysregulated anger (see Cassiello-Robbins & Barlow, 2016). In fact, one purported function of anger itself is to avoid the experience of more vulnerable emotions like anxiety and depression (Cassiello-Robbins et al., in preparation), underscoring its prevalence in the context of emotional disorders. As such, it is crucial that treatment for emotional disorders be relevant for the full range of emotional experiences. The fact that patients in the UP condition had lower anger scores at posttreatment than those who received SDPs

provides preliminary support for the idea that the UP is well poised to target an array of emotions.

The findings of the present study must be interpreted in the context of its limitations. First, given that anger was not assessed for the full duration of the trial, we were left with a small sample that completed the anger measure. In addition, recruitment for this trial was stratified to enroll equal numbers of the four principal diagnoses; to accomplish this goal, we were heavily recruiting individuals with PD/A and OCD in the latter half of the trial, after the addition of our anger measure. As a result, most patients in the present study received a principal diagnosis of PD/A and OCD; thus, it is possible that our findings will not generalize to other emotional disorders. In addition, our measure of anger, the PANAS-X, can be administered in reference to several windows of time (*e.g.*, past week, past month, generally). The present study asked participants to endorse the degree to which they generally experience anger, which may have limited our measurement precision with regard to pretreatment to posttreatment changes in this emotion. Finally, the PANAS-X assessed anger as a normally distributed trait. A review of anger assessments (Eckhardt et al., 2004) noted the importance of clarity as to whether or not anger is being measured as a pathological condition (*i.e.*, the extent to which it is persistently distressing and interfering). Future research should consider using assessments that examine the extent to which an individual's anger is pathological. In particular, standardized measures of trait anger or anger pathology are needed to replicate the association of dysregulated anger with symptom severity.

Despite these limitations, the current study adds to the existing literature on the role of anger in the treatment of emotional disorders. Our findings support the accumulating evidence that anger is associated with greater emotional disorder symptom severity and poorer prognosis. Furthermore, our work suggests that dysregulated anger may not be appropriately addressed in the context of standard CBT protocols focused on discrete *DSM-5* diagnoses. In contrast, transdiagnostic, emotion-focused CBT approaches, such as the UP, appear to be associated with lower levels of anger at posttreatment. This may be due to the fact that within a transdiagnostic treatment framework, attention can be paid to any emotional experience (*e.g.*, anxiety, depression, guilt, anger) that causes distress and impairment. Given that anger often occurs in the context of emotional disorders, flexible approaches in which the same skills are relevant for a range of emotional experiences are paramount. The results of this exploratory work suggest that additional research examining the utility of transdiagnostic treatments for addressing dysregulated anger in the context of emotional disorders may be beneficial.

ACKNOWLEDGMENTS

This study was funded by grant R01 MH090053 from the National Institute of Mental Health.

DISCLOSURE

The authors declare no conflict of interest.

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