Comorbidity and the Treatment of Principal Anxiety Disorders in a Naturalistic Sample

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This study examined the impact of comorbidity on treatment outcome and the effects of cognitive behavioral therapy (CBT) for anxiety and depressive disorders on comorbid disorders in a naturalistic sample of 150 patients presenting to an anxiety disorders clinic. The following results were observed across principal (i.e., most severe) diagnoses. Patients with comorbid anxiety and depressive disorders presented for treatment with higher severity of their principal disorder than patients without comorbidity. However, the presence of comorbidity did not predict dropout or poor treatment response, and patients demonstrated significant improvement in their principal disorders regardless of comorbidity. The frequency of clinically severe and subclinical (i.e., not severe enough to meet diagnostic criteria) comorbid conditions decreased significantly over the course of treatment. The implication of these findings for the classification and treatment of emotional disorders is discussed.

The term “comorbidity” refers to the co-occurrence of diseases or disorders within an individual, either over one’s lifetime or concurrently (e.g., at the time of assessment). Feinstein (1970) is generally credited with coining this term for use in the medical sciences, but application to psychopathology is, at least in some ways, more complex and contentious (Mineka, Watson, & Clark, 1998; Pincus, Tew, & First, 2004). Nevertheless, there is general consensus that the anxiety disorders co-occur more often than they exist as a patient's sole disorder. Several studies have shown that the majority of patients presenting with anxiety disorders have at least one other anxiety or depressive disorder at the time of assessment (T. A. Brown, Antony, & Barlow, 1995; T. A. Brown & Barlow, 1992; T. A. Brown, Di Nardo, Lehman, & Campbell, 2001; Di Nardo & Barlow, 1990; Goldenberg et al., 1996; Sanderson, Di Nardo, Rapee, & Barlow, 1990). A study using data from the Harvard/Brown Anxiety Disorders Research Program looked at comorbidity rates across different anxiety disorders and found that even the least frequently comorbid disorder (panic disorder without agoraphobia) presented alone less than half of the time (Goisman, Goldenberg, Vasile, & Keller, 1995).

Despite the relative rarity of noncomorbid anxiety disorders, therapy designed to treat anxiety is still largely researched and administered in isolation, without regard to the presence of comorbid disorders. If the majority of our knowledge about individual anxiety disorders is only empirically validated when they present in isolation, we may know a great deal about a relatively small subset of anxious individuals. Goldenberg and colleagues argue that since these “pure culture” diagnoses are relatively rare, future research studies should examine the effect of comorbidity and include patients with comorbid diagnoses (Goldenberg et al., 1996).

Effect of Comorbidity on Severity of the Principal Disorder

It is generally assumed that individuals with comorbid psychological disorders present with higher
severity than those with a single psychological disorder. A large number of studies have found this to be true with regard to the combination of anxiety and depressive disorders. Comorbidity of mood and anxiety disorders is associated with a more chronic course, earlier onset, and greater functional impairment (Belzer & Schneier, 2004). A meta-analysis of naturalistic outcome studies found that the combination of depression and anxiety was associated with significantly poorer outcomes (Emmanuel, Simmonds, & Tyner, 1998). Depressed individuals with comorbid anxiety disorders were also found to terminate antidepressant treatment more frequently than patients with depression alone (C. Brown, Schulberg, Madonia, Shear, & Houck, 1996).

The studies within the anxiety disorders that examine the effect of comorbidity on severity typically do so within the context of a single principal disorder. Comorbidity has been associated with greater pretreatment severity in principal panic disorder (Allen et al., 2007; T. A. Brown et al., 1995; McLean, Woody, Taylor, & Koch, 1998), social phobia (Erwin, Heimberg, Juster, & Mindlin, 2002; Mennin, Heimberg, & Jack, 2000), and generalized anxiety disorder (GAD; Belzer & Schneier, 2004; Borkovec, Abel, & Newman, 1995; Nutt, Argyropoulos, Hood, & Potokar, 2006). However, two studies in principal panic disorder found no significant difference in panic severity between patients with and without comorbidity (Tsao, Lewin, & Craske, 1998; Tsao, Mystkowski, Zucker & Craske, 2005). One study that did evaluate severity across principal diagnoses found that when anxiety disorders exist alone, they are characterized by later onset and a less chronic course than when they are present with comorbid disorders (Goldenberg et al., 1996). Thus, the majority of studies suggest that patients with comorbid disorders present with more severe symptoms of their principal disorder. Perhaps because of this correlation between comorbidity and severity, researchers and clinicians often assume that comorbid diagnoses will decrease the effect of treatment for the principal disorder, and, in some cases, this appears true. However, findings on the effect of comorbidity on treatment outcome have been mixed.

Effect of Comorbidity on Treatment Outcome

Many studies find that patients tend to improve regardless of comorbidity status. Several studies on principal panic disorder found no substantial impact of comorbidity on treatment outcome (Allen et al., 2007; T. A. Brown et al., 1995; Tsao, Mystkowski, Zucker & Craske, 2002; Tsao et al., 2005). However, this finding does not appear to be universal. Tsao et al. (1998) found a trend toward patients with principal panic disorder and a comorbid disorder being less likely to achieve high improvement.

When evaluating single comorbid disorders, findings are similarly mixed. For example, several studies have found increased treatment gains from CBT for panic disorder in patients who have comorbid social phobia diagnoses compared with those who do not have comorbid social phobia (Allen et al., 2007; T. A. Brown et al., 1995). However, when social phobia is the principal disorder, the presence of comorbid depression has been associated with poorer treatment outcome (Chambless, Tran, & Glass, 1997). Another study found that patients seeking treatment for social phobia responded favorably to cognitive-behavioral group therapy whether or not they had comorbid GAD (Mennin et al., 2000). However, comorbid GAD was found to predict dropout among those being treated for obsessive-compulsive disorder (OCD) and panic disorder with agoraphobia (Steketee, Chambless, & Tran, 2001).

Comorbid major depressive disorder (MDD) has been associated with greater post-treatment severity for other anxiety disorders, including OCD (Abramovitz & Foa, 2000; Steketee et al., 2001) and panic disorder (T. A. Brown et al., 1995). However, patients with panic disorder and comorbid depression still achieve statistically significant treatment gains (Allen et al., 2007). Higher posttreatment scores do not necessarily suggest the lack of significant treatment response. This circumstance could be explained by patients with depression beginning treatment with higher severity and making improvements comparable to other patients. When studies report lower functioning after treatment for patients with comorbid disorders, it may be that the rate of improvement was similar for patients with and without comorbid diagnoses (e.g., Erwin et al., 2002). In short, it appears that comorbidity does not necessarily reduce the effectiveness of treatment, but that the relationship of comorbidity to treatment outcome may be more complex than expected.

Effect of Treatment for a Principal Anxiety Disorder on Comorbid Disorders

Studies investigating the effect of treatment on comorbid disorders are sparse. Of the few existent studies, most focus on a sole principal diagnosis with one or more comorbid conditions. Five known studies investigated the effect on comorbid conditions when panic disorder was treated (Allen et al., 2007; T. A. Brown et al., 1995; McLean et al., 1998; Tsao et al., 1998; Tsao et al., 2005).
Four studies investigated multiple comorbid anxiety and depressive disorders (Allen et al., 2007; T. A. Brown et al., 1995; Tsao et al., 1998, 2005). These studies each found significant declines in the frequency of comorbid disorders from pretreatment to posttreatment. The largest declines were seen in comorbid GAD, social phobia, and specific phobia, but significant declines in the frequency of depressive disorders were also seen. Therefore, there is some consensus that comorbid Axis I disorders generally improve over the course of successful treatment for panic disorder.

In contrast, McLean and colleagues focused specifically on panic disorder and comorbid depression. Although depression did not have a detrimental effect on treatment outcome and Beck Depression Inventory (BDI; Beck & Steer, 1987) scores did decrease, the decrease was not substantially different from the decrease seen in a “minimal treatment waitlist” group with MDD. This last finding contrasts with the other four studies in this group.

Aside from the above studies that focus on patients for which panic disorder is the principal diagnosis, few other studies have evaluated the effect of therapy on comorbid conditions. Borkovec, Abel, and Newman (1995) investigated these effects in principal GAD and found results similar to those reported above. They reported that the prevalence of comorbid diagnoses decreased significantly from before therapy to follow-up and also found that this effect was larger among patients for whom therapy had been successful. Moscovitch, Hofmann, Suvak, and In-Albon (2005) explored the mediation of changes in comorbid depression during treatment of principal social phobia and found that depressive symptom reduction was fully mediated by improvement in social anxiety. A single known study with a small sample investigated this effect across principal disorders. Norton, Hayes, and Hope (2004) report data from a transdiagnostic CBT group for anxiety disorders and found that comorbid depressive disorders appeared to reduce in severity.

In summary, the literature on comorbidity in principal panic disorder indicates that patients with comorbid disorders generally present with increased severity but that the presence of comorbidity does not impede treatment. On the contrary, patients with comorbid disorders tend to show improvement in their targeted disorder as well as reduced comorbidity. The current study aims to determine whether this is specific to patients with panic disorder or is more generally the case for patients with anxiety disorders. Additionally, this is the first known study on this topic to use a more naturalistic sample, rather than a study protocol focusing on a single diagnosis. Based on the results reviewed above from studies on treatment for principal panic disorder, the following is expected across principal anxiety disorders:

1. Patients with comorbid disorders will begin treatment with more severe principal anxiety disorders than patients without comorbidity.
2. The presence of comorbidity will not have a significant effect on the response to treatment for the principal disorder.
3. Over the course of treatment, comorbidity will be reduced.

Method

Participants

The initial sample consisted of 364 outpatients who presented to an anxiety disorders specialty clinic, the Center for Anxiety and Related Disorders (CARD) at Boston University over a 4-year, 9-month period. Participants were part of a larger pool that included all persons presenting to this clinic for assessment and treatment of anxiety and/or mood disorders. The patients included in this study were not involved in other studies that tested experimental protocols or group formats. Thus, the dataset used in this study describes the general clinical treatment of patients that either did not enter treatment at a time that coincided with an applicable experimental protocol or did not meet criteria for such a study, possibly due to comorbidity.

For several patients, there were insufficient pre-treatment or termination data, for reasons including clinicians not reporting data, patients who dropped out of treatment or moved away, or, in some cases, treatment that had not reached its natural end at the time of data collection. These patients were removed from the current study, leaving 150 of the initial 364 patients for whom there were adequate pretreatment and termination data. Of the initial 364 patients, 58.5% were female, and the average age was 34.00 years (SD = 11.57, range, 17-74). The sample was 88.5% Caucasian, 3.8% African-American, 3.9% Asian or Pacific Islander, 1.9% Hispanic, 0.6% American Indian or Alaskan Native, and 1.7% other ethnic origin.

The final sample of 150 patients was similarly composed, with 54.3% female and average age 32.50 (SD = 10.90, range = 20 to 98). As in the larger sample, the majority of patients were Caucasian (88.1%), with 4.0% African-American, 5.3% Asian or Pacific Islander, 0.7% Hispanic, and 1.3% other ethnic origin. There were no significant age, gender,
or ethnicity differences between patients in the final sample and those who were removed due to insufficient data or treatment dropout.

PROCEDURE

Persons requesting evaluation or treatment for anxiety or depression were screened via telephone to confirm that their presenting complaint was an anxiety or mood disorder. Patients were excluded and referred elsewhere if any of the following conditions were met: current psychosis, multiple psychiatric hospitalizations within the past 5 years, or organic brain disorder. Those eligible were offered initial diagnostic evaluation at the clinic.

This evaluation consisted of administration of the Anxiety Disorders Interview Schedule for DSM-IV-Lifetime version (ADIS-IV-L; Di Nardo, Brown, & Barlow, 1994). Independent evaluators were advanced doctoral students in clinical psychology and/or Ph.D.-level clinicians who underwent a rigorous certification procedure to ensure standardization of administration and diagnostic reliability. In addition, each patient completed a battery of self-report measures used to assess anxiety, mood, and personality features. The conclusions of this evaluation were presented to the patient in a feedback session, and the patient was offered cognitive-behavioral therapy for his or her principal diagnosis.

Treatment was delivered utilizing manualized protocols to provide some structure in most cases. As always, there was considerable flexibility in how the protocol was applied in an individual case. In a few cases, no appropriate manual existed. Therapists were experienced psychology doctoral students, psychiatrists, and Ph.D.-level clinicians. All therapists were trained in CBT and attended weekly supervision with a licensed clinician. There was no set limit on the number of treatment sessions, but all treatment was provided in a brief therapy model, and sessions were typically 60 min in length. The average number of sessions for the final sample was 14.21 (SD = 6.51, range = 5-43). Both self-report and clinician-rated measures were administered at initial assessment and termination.

MEASURES

ADIS-IV-L

The primary diagnostic measure was the ADIS-IV-L, a semistructured interview that focuses on anxiety and mood disorders as well as substance use and somatoform disorders (Di Nardo et al., 1994). The ADIS-IV-L shows good to excellent interrater agreement (T. A. Brown et al., 2001; \( \kappa = .77 \)) for panic disorder and panic disorder with agoraphobia, \(.77 \) for social phobia, \(.67 \) for GAD, \(.67 \) for depressive disorders, either major depression or dysthymia, \(.85 \) for OCD, and \(.86 \) for specific phobia). The primary outcome measure recorded in the ADIS-IV-L is a clinical severity rating (CSR) assigned by the interviewer, which is a score from 0 (no interference/distress) to 8 (severe interference/distress) reflecting the evaluator’s clinical judgment about the degree of interference and distress caused by the symptoms of a particular disorder. Scores of 4 and above meet DSM-IV criteria and are considered clinically significant. Following the same scale, all disorders present in the diagnostic assessment were assigned a severity rating. The “principal disorder” was defined as the disorder with the highest severity rating for a given individual, and other diagnoses present were referred to as “comorbid.” Note that this distinction essentially refers to symptomatic dominance and does not include inferences about chronology of onset or causality.

For patients with “co-principal” diagnoses, that is, two disorders with the same CSR, the clinician and patient decided which disorder was most pressing and proceeded with treatment for this disorder. For the purpose of this study, the disorder treated was considered as the principal diagnosis, and the co-principal disorder was considered as a comorbid disorder.

QUESTIONNAIRES

In addition to the ADIS-IV-L, several self-report measures were administered at pretreatment and posttreatment:

Beck Depression Inventory-II (BDI-II; Beck, Steer, & Brown, 1996)

The BDI-II is a 21-item self-report scale used to assess cognitive and physical symptoms of depression. Each item consists of four statements, assigned values from 0 to 3, varying in severity of a specific symptom experienced over the past week. The values of selected statements are summed to yield a single depression score. Internal consistency \( \alpha = 0.92 \), and test re-test correlations were 0.93, as reported in the clinical outpatient sample initially tested.

Depression Anxiety Stress Scales (DASS; Lovibond & Lovibond, 1995)

The DASS is a 42-item self-report measure used to assess distress on three factors, physical symptoms of anxiety (DASS-A), mental stress (DASS-S), and depression (DASS-D). Each of 42 symptoms is presented as an item, and is rated on a 4-point frequency and severity scale. The 14 items contributing to each factor are summed to yield factor scores. Internal consistencies for all three factors were in the very good to excellent range (DASS-D 0.91; DASS-A 0.84; DASS-S 0.90).
Work and Social Adjustment Scale (WSAS; Hafner & Marks, 1976)
The WSAS is a 5-item measure that elicits ratings of interference caused by symptoms in five life domains (work, leisure, social activities, home, and family). Interference in each domain is rated according to a 5-point scale of severity, with lower scores indicating less interference. The final score represents the average of scores across domains. The WSAS has shown adequate internal consistency, ranging from 0.70 to 0.94, and test-retest correlation (0.73) in a clinical sample (Mundt, Marks, Shear, & Greist, 2002) and yielded similar values in a sample of patients with phobic disorders (Mataix-Cols et al., 2004).

Additional measures of treatment response
Previous studies focusing on a sample sharing a single principal disorder have used measures relevant to that disorder to categorize participants as treatment responders or nonresponders. For example, in Allen et al. (2007), treatment responders evidenced at least a 40% pretreatment-to-posttreatment reduction on a measure of panic disorder severity. Because the present study evaluated patients across principal disorders, new criteria for responder status were employed. As in previous studies using the ADIS, a CSR of “2” or less at posttreatment was used to designate patients as having achieved “high endstate functioning.” Because this is typically used as a more restrictive measure, a “responder” category was defined, which required a posttreatment CSR of “4” or below and a CSR at least 2 points lower at posttreatment than at pretreatment. For example, a patient with a pretreatment CSR of 4 and posttreatment CSR of 3 would not be categorized as a “responder,” whereas a patient with a pretreatment CSR of 7 and posttreatment CSR of 4 would be categorized as “responder.”

Results
Attrition
As mentioned above, a large number of patients' data was insufficient for reasons including clinicians not reporting data, patients who dropped out of treatment or moved away, or, in some cases, treatment that had not reached its natural end at the time of data collection, leaving 150 completers.

Table 1
Pretreatment Principal and Comorbid Diagnoses

<table>
<thead>
<tr>
<th>Principal diagnosis</th>
<th>Comorbid diagnoses</th>
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<tbody>
<tr>
<td></td>
<td>Social phobia</td>
</tr>
<tr>
<td>Social phobia</td>
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</tr>
<tr>
<td>Panic disorder</td>
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<td>GAD</td>
<td>n=20</td>
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<tr>
<td>Depression</td>
<td>n=18</td>
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<td>OCD</td>
<td>n=12</td>
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<tr>
<td>Specific phobia</td>
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<td>Anxiety disorder NOS</td>
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</tr>
<tr>
<td>Agoraphobia w/o panic</td>
<td>n=3</td>
</tr>
<tr>
<td>PTSD</td>
<td>n=2</td>
</tr>
<tr>
<td>Other</td>
<td>n=4</td>
</tr>
<tr>
<td>Total</td>
<td>n=150</td>
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</tbody>
</table>

Note. GAD=generalized anxiety disorder; Depression=depressive disorder (includes MDD and dysthmic disorder); OCD=obsessive compulsive disorder; Anxiety NOS=anxiety disorder, not otherwise specified; Other includes specified disorders, e.g., somatization disorder.
from the 364 patients in the database. The remaining 214 patients included 46 patients for whom there was information about premature termination, as well as 168 patients about whom we have no data other than demographic and diagnostic information. Thus, they may have terminated treatment, may not have finished treatment at the time of data collection, or may have completed treatment with a therapist who did not enter data later in the treatment process.

Among the 46 patients with certain premature termination, causes were as follows: 25 patients were unwilling to continue for unknown reasons, 9 patients left the area, 7 terminated due to noncompliance and/or missed sessions, 3 initiated treatment elsewhere, and 2 decided to discontinue when their therapist left the area. Analyses were conducted to test for differences in severity and comorbidity between completers and this subset of 46 non-completers, as well as between completers and the entire remaining group of 214 patients. There was no significant difference in the severity of symptoms or in the presence or number of comorbid diagnoses for either between-group comparison.

**Patterns of Principal Diagnoses**

Of the original 364 participants, social phobia was the most common principal diagnosis, assigned to 100 patients (27.5%), followed by panic disorder ($n=79, 21.7\%$). Other principal diagnoses assigned included GAD ($n=45, 12.4\%$), major depressive and dysthymic disorders ($n=43, 11.8\%$), OCD ($n=30, 8.2\%$), and specific phobia ($n=23, 6.3\%$). Other anxiety and mood disorders were assigned as principal diagnoses to less than 5% each of this group.

Among the 150 patients who completed treatment, 52 patients (34.7%) were assigned a principal diagnosis of social phobia, followed by 31 patients (20.7%) for whom the principal diagnosis was panic disorder. GAD ($n=20, 13.3\%$), major depressive and dysthymic disorders ($n=18, 12\%$), OCD ($n=12, 8\%$), and specific phobia ($n=4, 2.7\%$) were also present.

**Pretreatment Patterns of Comorbidity**

Analyses are reported for the final sample only ($N=150$) unless otherwise stated. As expected, comorbidity within this sample was high, with 88 patients (58.7%) having at least one comorbid condition of clinical severity (see Table 1). Among this group, 47 patients (52.8%) had one additional diagnosis, 32 (36%) had two additional diagnoses, 6 (6.7%) had three additional diagnoses, and 3 (3.4%) had four or more additional diagnoses. Among those 62 patients with no comorbid condition of clinical severity, 65.5% ($n=41$) had symptoms of an additional disorder that were present at a subclinical level of severity.

Depression (MDD or dysthymia) was the most common comorbid diagnosis ($n=35, 38.3\%$), followed by social phobia ($n=24, 27\%$), GAD ($n=23, 25.8\%$), OCD ($n=16, 18\%$), panic disorder (with or without agoraphobia; $n=11, 12.3\%$) and specific phobia ($n=8, 9\%$).
At pretreatment, patients with comorbid anxiety and depressive disorders rated their levels of distress higher than patients with a single diagnosis. Analyses of pretreatment self-report measures, which assessed physical symptoms of anxiety (DASS-A), mental stress (DASS-S), and depression (DASS-D and BDI-II), as well as interference in daily functioning (WSAS), revealed significantly more severe distress in the comorbid group (COM) than the no-comorbidity (NOCOM) group (see Fig. 1):

\[
\text{DASS-A, } t(147) = 3.05, p < .005; \text{ DASS-S, } t(147) = 4.65, p < .001; \text{ DASS-D, } t(147) = 3.85, p < .001; \text{ BDI-II, } t(85) = 2.89, p = .005; \text{ WSAS, } t(140) = 3.48, p = .001.
\]

Although not a normally distributed variable, the means, standard deviations, and t-test analyses of CSRs are presented here for the purpose of continuity with previously published literature. CSRs for principal diagnoses were significantly higher for COM patients than NOCOM patients (COM, \(M = 5.78, SD = 0.80\); NOCOM, \(M = 5.05, SD = 0.72\); \(t(148) = 5.85, p < .001\)).

**Impact of Comorbidity on Treatment Response**

Chi-square analyses were used to analyze categorical measures of comorbidity (i.e., presence or absence) and treatment outcome (i.e., presence or absence of treatment response and meeting high endstate criteria, as defined above). Chi-square statistics revealed that patients with pretreatment comorbidity were categorized as treatment responders (75.3%) and as having achieved high endstate functioning (32.5%) at the same rate as individuals without comorbidity (responder, 63.3%; high endstate, 33.3%; responder, \(\chi^2(1, N = 150) = 2.31, p > .10\); high endstate functioning, \(\chi^2(1, N = 150) = 0.01, p > .5\).

To further investigate this question, a 2-way, repeated-measures analysis of variance was conducted on WSAS scores, allowing analysis of an interaction between comorbidity and treatment. As expected, a main effect of treatment emerged, with scores improving from pretreatment (\(M = 2.93, SD = 1.64\)) to posttreatment: \(M = 1.57, SD = 1.36\); \(F(1, 134) = 89.78, p < .001\). There was also a significant main effect of comorbidity, \(F(1, 134) = 13.07, p < .001\), with patients in the COM group (\(M = 2.56, SD = 1.63\)) reporting greater severity than those in the NOCOM group (\(M = 1.80, SD = 1.47\)). There was no significant interaction between comorbidity and treatment as measured by the WSAS, as both groups improved at similar rates.

An additional analysis was conducted to determine whether patients with comorbid disorders had longer courses of treatment. Patients with comorbidity participated in an average of three more sessions (\(M = 15.3, SD = 7.5\)) than patients without comorbid diagnoses (\(M = 12.5, SD = 4.2\)). This difference was significant, \(t(129) = 2.45, p < .01\).

**Impact of Treatment on Comorbid Diagnoses**

As in previous studies with principal panic disorder, the impact of CBT for principal anxiety disorders on comorbid disorders was observed by evaluating...
changes in frequencies of comorbid disorders from pretreatment to posttreatment. There were insufficient data at posttreatment for 11 patients, and they were excluded from the analyses below. The frequencies of all additional diagnoses together as well as of specific comorbid disorders were used as categorical variables. Chi-square analyses were used to compare these rates of change over time. In addition, the aggregate number of comorbid diagnoses was examined using paired-samples t-tests.

At pretreatment, 78 of 139 (56.1%) individuals had at least one comorbid diagnosis of clinical severity. At posttreatment this number was reduced to 26 individuals (18.8%). This reduction was statistically significant, \( \chi^2(1, N=139) = 13.30, p < .001 \). The reduction was also significant when examining the frequency of comorbid depression, \( \chi^2(1, N=139) = 15.86, p < .001 \), social phobia, \( \chi^2(1, N=139) = 9.55, p < .005 \), and GAD, \( \chi^2(1, N=139) = 8.03, p < .05 \) (see Fig. 2).

**Discussion**

The current study allowed a preliminary investigation into the impact of comorbidity on treatment for a range of anxiety disorders and found that the majority of the results reported for principal panic disorder are also seen across the anxiety disorders. That is, patients with comorbid disorders begin treatment with more severe symptomatology, but the presence of comorbidity does not impede treatment. Furthermore, the number of patients with comorbid disorders decreased over the course of treatment for principal disorders.

Many studies of principal panic disorder and comorbidity report that patients with comorbid disorders present with more severe symptoms of panic. The current study indicates that this appears to be true across principal disorders. As seen in studies on principal panic disorder, comorbidity across principal anxiety disorders was high (59%) at pretreatment. Patients with comorbid anxiety and mood disorders began treatment with higher severity ratings for their principal disorders, as well as higher scores on self-report measures of distress related to physical symptoms of anxiety, mental stress, and depression.

Secondly, patients with comorbid disorders achieved significant treatment gains, with no significant detriment from comorbidity. The finding appears particularly robust because it was significant using both categorical measures of treatment response and dimensional measures of symptom interference in daily functioning. Individuals with comorbid disorders enter treatment with more severe symptomatology than their counterparts without comorbidity, but have similar rates of improvement as measured by clinician and self-report.

This study provides evidence that nontargeted anxiety and mood disorders improve with CBT for a principal anxiety disorder. The rate of comorbidity decreased from 56% to 18% over the course of treatment. Individual comorbid disorders including depressive disorders, social phobia, and GAD also decreased. One difficulty in interpreting this evidence is that patients with comorbid disorders participated in an average of three additional therapy sessions compared to patients without comorbidity. In this naturalistic setting, patient and therapist decided together when to end treatment. The finding of longer treatment for patients with comorbidity could indicate the perceived need for additional treatment of the principal disorder or it could reflect a collaborative decision to spend a few sessions focusing on one or more comorbid disorders. Unfortunately, there is no way to determine what the focus of each session was. Germaine to this issue is the discussion by T. A. Brown and Barlow (1995) who find, with longitudinal data, that comorbid diagnoses take a more variable course than is typically observed through pre-post analysis. It may be that less emphasis on diagnostic discrepancy illuminates increased temporal instability with respect to the severity of emotional disorders.

The evidence provided by the current study highlights the need for future research in this area. Further explorations of interest include evaluating comorbid substance abuse and personality disorders, which may share underlying negative affect, but are thought to share fewer commonalities in emotion regulation strategies and traditional treatment modalities than do anxiety and depressive disorders. New prospects for investigation also come from trials of a unified treatment for emotional disorders that seeks to streamline the psychological procedures integral to CBT for various disorders (Allen, McHugh, & Barlow, 2008; Barlow, Allen, & Choate, 2004). Essential components include changing antecedent reappraisals, preventing emotional avoidance, and promoting action tendencies impeded by the dysregulated emotion.

There are several limitations to this study that are important to note. For example, a large portion of the sample was not used in analyses due to missing data or attrition. Additionally, the variation in diagnoses resulted in few measures that were applied to the entire sample, limiting analyses available. Although this was a naturalistic study
and comorbidity among anxiety and depressive disorders was well-represented, exclusions such as suicidality and bipolar disorder limit the generalization of findings somewhat. However, in these instances, most clinicians would not focus treatment on the emotional disorders as a principal strategy. Another important limitation to note is the inability to determine what motivated longer lengths of treatment for patients with comorbid disorders, and what the focus was during additional sessions.

Despite these limitations, the current study provides key evidence regarding the effect of treatment on comorbid disorders. The interaction of multiple emotional disorders has been thought of as generally additive—patients with high comorbidity were more ill and more complicated to treat. The data presented in this study provide strong evidence that this is only partially true. Patients with comorbidity do present with greater severity, but this does not appear to impede treatment. On the contrary, patients with comorbidity not only make significant improvement in their principal disorder, on the level of patients without comorbidity, but their comorbid disorders also show clear improvement. Also apparent from the data is a clear contradiction to the notion that comorbid depressive disorders tend to render patients more treatment resistant. This evidence emphasizes a need for revising our traditional view on anxiety and depressive disorders as separate entities. However, further research is needed to more fully understand the mechanisms involved in the improvement of comorbid disorders through CBT for a principal disorder, and to better shape the impact this evidence will have on the nature of future treatment for emotional disorders.

References


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