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COMMENTARY

Increasing Treatment Efficiency and Effectiveness: Rethinking Approaches to Assessing and Treating Comorbid Disorders

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The review by Teng and colleagues (2013) makes clear that there exist a number of problems in how we currently conceptualize, assess, and treat (or not treat) comorbid disorders. We make a number of assessments and clinical research suggestions that are meant to improve our understanding and treatment of comorbid conditions that likely share important psychological mechanisms. These suggestions involve (a) including individuals with multiple and serious comorbidities in treatment outcome research, (b) implementing assessment of relevant comorbid conditions in clinical research, (c) emphasizing common mechanisms underlying co-occurring problems, and (d) providing integrated treatment for comorbid disorders. The ultimate goal is to increase our ability to provide treatment that is both effective and efficient for individuals with multiple comorbidities.

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For many psychological disorders, comorbidity with other Axis I and Axis II disorders is more the norm than the exception. Epidemiological research indicates that comorbidity rates for psychological disorders range from 44% to 94% (e.g., Jacobi et al., 2004). Despite this reality, most treatment outcome research has focused on targeting and assessing a single disorder, often while excluding individuals with other serious comorbidities. This research has resulted in a proliferation of disorder-specific treatments of unknown, and perhaps limited, efficacy for comorbid conditions. Clinicians treating individuals with multiple comorbidities must therefore rely on clinical judgment to make decisions about how best to treat multidiagnostic individuals. Clinicians must decide the following: which disorder to treat first, whether it makes sense to treat one disorder in isolation of another, which treatment or treatment approach to use, and how to evaluate treatment progress.

These research and clinical challenges are made clear in Teng and colleagues' (2013) systematic review of the posttraumatic stress disorder (PTSD) treatment outcome literature that was conducted in an effort to determine the effect of PTSD treatment on comorbid panic disorder (PD). In this commentary, we make a number of suggestions regarding assessment and clinical research that are intended to improve our understanding of the ways in which disorders are related and interact and ultimately lead to better outcomes for individuals suffering across multiple domains of disorder. These suggestions include the following: (a) not excluding individuals with multiple and serious comorbidities from treatment outcome research, (b) including assessment of comorbid conditions in clinical research,

(c) focusing on common mechanisms underlying co-occurring problems, and (d) providing integrated treatment for comorbid disorders. The overarching goal of these suggestions is to increase our ability to provide treatment that is both effective and efficient for individuals with multiple comorbidities.

INCLUDE INDIVIDUALS WITH SIGNIFICANT COMORBIDITIES IN RESEARCH TRIALS

There has been much debate about whether the results of treatment outcome research are generalizable to "real-world" clients treated in routine clinical settings (e.g., Goldfried & Wolfe, 1998). Perhaps the greatest impediment to external validity is the routine exclusion of individuals with significant comorbidities from randomized controlled trials (e.g., Spinazzola, Blaustein, & van der Kolk, 2005). This exclusion is typically made in an effort to isolate the target disorder and eliminate conditions that may interfere with or attenuate treatment effects. For example, a meta-analysis of treatment outcome studies for PD, generalized anxiety disorder, and depression found that on average, two-thirds of patients were excluded from the studies, and the number of exclusion criteria significantly predicted better outcomes (Westen & Morrison, 2001). Similar results were found in a meta-analysis of PTSD treatment studies, where 30% of patients were excluded, and the number of exclusion criteria was positively correlated with pre- and posttreatment effect sizes (Bradley, Greene, Russ, Dutra, & Westen, 2005).

Of particular relevance to the Teng et al. (2013) report, the most common exclusion criteria in PTSD studies are psychotic disorders, organic disorders, substance use disorders, suicidality, and some version of serious (often unspecified) comorbidity (Bradley et al., 2005). Yet, these types of comorbid problems may be particularly common among individuals with both PTSD and PD; for example, both disorders are independently and highly associated with suicide attempts (Nepon, Belik, Bolton, & Sareen, 2010). Thus, while the studies reviewed by Teng et al. (2013) provide preliminary evidence that PTSD treatment may positively impact PD for a majority of patients with this comorbidity, these findings may not apply to a large number of individuals with PTSD, PD, and other serious comorbidities. More generally, if we are to determine how most effectively to treat individuals with serious and multiple comorbidities, we first need to include these patients in our treatment studies. Although broadening the inclusion criteria used in research trials will likely create new challenges for treatment developers and researchers, these are exactly the challenges for which we need to find solutions if we are to improve our ability to treat multidiagnostic individuals.

WHEN COMORBID CONDITIONS ARE INCLUDED, BE SURE TO ASSESS THEM

The historic emphasis on studying and treating single diagnoses in isolation is evident in the research reviewed by Teng et al. (2013); namely, 41% of treatment outcome studies for PTSD did not assess for Axis I comorbidity at any point during or after treatment, and only 5% assessed PD as an outcome, despite comorbidity rates as high as 36%. This lack of attention to comorbidity assessment in outcome measurement suggests a singular focus that limits the understanding of the broader effects of an intervention and, further, is out of step with the direction of the field.

Thus, it is also critically important to include reliable and valid assessments of comorbid conditions in treatment studies if we are to better understand the relationships between disorders and how treatment of one disorder may or may not impact another. Thus, at the very least, we argue that outcome measurement batteries in randomized clinical trials of psychological disorders include systematic assessment of relevant comorbid disorders and problems. Preferably, this assessment would be comprised of structured clinical interviews that have been well validated, rather than rely on self-report indices; however, we recognize that this could significantly increase the length of assessments. One way to shorten the burden of extensive interviewing would be for researchers a priori to make theory and research-informed decisions about which disorders to assess at baseline and follow-up assessments. If a team is researching treatment for a mood disorder such as major depression, it would make sense to also assess the majority of anxiety disorders given high rates of overlap between these two (e.g., Devane, Chiao, Franklin, & Kruep, 2005). However, not all disorders would be expected to change given treatment of one and

therefore would not need to be assessed. For example, it is likely that treatment of simple phobia would have no impact on co-occurring bipolar disorder. Thus, researchers can streamline assessment batteries to include the assessment of particular comorbid disorders and then measure changes in those disorders, along with the target disorder, over time. Data from such assessments would allow us to determine whether targeting one specific disorder impacts other conditions in positive or negative directions and has implications for treatment development and treatment choice.

We suggest further that researchers routinely include outcome measures that assess overall psychological distress and functioning and not just the presence or absence of a particular disorder or disorders. Such data would aid in interpreting the broader impact of treatment effects. For example, in a study evaluating the impact of borderline personality characteristics (BPC) on PTSD treatment outcome, patients with and without BPC achieved comparable rates of PTSD remission (56% vs. 61%; Feeny, Zoellner, & Foa, 2002). However, when using a broader definition of good end-state functioning, including the overall severity of PTSD, depression, and anxiety, only 11% of individuals with BPC achieved this broader definition of treatment success compared with 51% of individuals without this comorbidity (Feeny et al., 2002). Having a more complete picture of the effects of an intervention, beyond just a focus on the target disorder, will further improve our understanding of the effects of particular treatments on comorbidities.

FOCUS ON COMMON MECHANISMS AS MUCH AS (OR MORE THAN) SPECIFIC DISORDERS

The recent release of the fifth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (*DSM-5*; American Psychiatric Association, 2013) has been met with much controversy. Like its predecessors, the *DSM-5* uses a categorical approach to diagnosis that defines disorders based on a set of criterion symptoms rather than an approach that defines disorder based on causative mechanisms. In a move widely characterized as critical of the *DSM-5*, the Director of the National Institute of Mental Health (NIMH) recently announced that research funded by NIMH will have less emphasis on disorders as specified by *DSM* categories and greater emphasis on "projects that look across current categories—or subdivide current categories—to begin to develop a better system" (Insel, 2013). This change heralds a shift in the field toward focusing on understanding underlying mechanisms of psychopathology to develop more efficient and effective treatments for psychological problems, many of which share common maintaining factors.

Teng et al. (2013) highlight several mechanisms that underlie both PTSD and PD, including anxiety sensitivity, autonomic activation, and emotional avoidance. As the authors note, better understanding of these and other common vulnerabilities would not only help to explain the high degree of comorbidity between PTSD and PD, but also help to determine which treatments may most effectively target these mechanisms and therefore best treat both disorders. Their review of the PTSD treatment literature indicates that in the few studies that assessed PD as an outcome, PD decreased an average of 56.7% among individuals who completed PTSD treatment. However, it remains unknown whether PD decreased as a result of changes in common mechanisms (e.g., anxiety sensitivity) or whether one treatment approach (e.g., exposure therapy) is more effective than another in targeting these common mechanisms. This dearth of knowledge is certainly not specific to PTSD treatment research, and the field in general would benefit from moving toward a focus on mechanisms of change in both assessment and treatment with the goal of determining more precise treatment for individuals with multiple disorders.

PROVIDE INTEGRATED TREATMENT FOR COMORBID PROBLEMS

Given the clinical presentation of an individual with multiple comorbidities, the clinician must make choices about how to best approach treatment. Using the specific case of PTSD, Najavits et al. (2009) described several general approaches to treating comorbid disorders: single-diagnosis treatments, sequential treatments, parallel treatments, and integrated treatments. Single-diagnosis treatments focus on treating only one disorder (for example, prolonged exposure or cognitive processing therapy for PTSD), and comorbid disorders are not directly targeted. As stated earlier, the impact of single-diagnosis treatments on comorbid disorders is largely

unknown, and any changes that may occur are an indirect result of treating the primary disorder. Sequential treatments involve treating one disorder first and then moving on to another treatment to target the next disorder. This has historically been the approach for dual diagnosis of PTSD patients, as these individuals have often been required to treat their substance use disorder and achieve abstinence prior to receiving treatment for PTSD. Third, parallel treatment is the simultaneous treatment of comorbid disorders, but in separate treatments. For example, an individual with comorbid PTSD and bulimia nervosa may receive treatment for PTSD with one provider, while also receiving treatment for bulimia nervosa in a separate eating disorder program.

A fourth approach to treating comorbidities is integrated treatment. Integrated treatment refers to the treatment of comorbid disorders in the same treatment, by one provider, and includes a focus on the relationships between them. These can be multicomponent treatments that include modules targeting different disorders, such as multiple channel exposure therapy for PTSD and PD (MCET; Falsetti & Resnick, 2000) and concurrent treatment of PTSD and substance use disorders using prolonged exposure (COPE; Mills et al., 2012). Transdiagnostic treatments, such as the unified protocol for emotional disorders (Farchione et al., 2012), are also a form of integrated treatment that focus on targeting common mechanisms underlying comorbid disorders as opposed to providing separate modules for different disorders. In addition, comprehensive, principle-driven treatments such as dialectical behavior therapy (Linehan, 1993), described more below, can flexibly provide integrated treatment for the problems with which a client presents, including targeted treatment for specific disorders such as PTSD when needed (Harned, Korslund, Foa, & Linehan, 2012).

The emerging consensus is that comorbid conditions are best treated using an integrated approach that allows for targeting of multiple problems in the same treatment while focusing on common mechanisms (Najavits et al., 2009; National Institute of Drug Abuse, 2010). This marks a shift away from the approach of single-diagnosis treatments, which represents the majority of extant treatment outcome research.

DIALECTICAL BEHAVIOR THERAPY: AN EXAMPLE OF INTEGRATED TREATMENT

Although originally developed for individuals with borderline personality disorder (BPD), it is worth noting that a principle-based (rather than protocol-based) treatment such as dialectical behavior therapy (DBT; Linehan, 1993) may prove useful in the treatment of multidiagnostic individuals in "real-world" clinical practice (for a review of DBT, see Rizvi, Steffel, & Carson Wong, 2013). BPD is a disorder well known for its high rates of comorbidity with both Axis I and Axis II disorders. In fact, research has shown that treatment-seeking suicidal women with BPD have an average of three comorbid Axis I disorders at presentation (Harned et al., 2008). Further, in this study of DBT for suicidal BPD women, remission rates for individual Axis I disorders ranged from 35% (PTSD) to 87% (substance dependence disorders). Overall, 74% of patients achieved full remission from at least one Axis I disorder, and on average, patients fully remitted from 55% of their co-occurring Axis I disorders (Harned et al., 2008). Possible explanations for DBT's efficacy for comorbid conditions are that it (a) places greater emphasis on behavior and behavioral patterns rather than diagnostic category per se and (b) instructs the clinician to develop a specific, principle-governed target hierarchy, based on the individual client's prominent behavioral patterns to inform the direction of treatment. Together, these lead to an idiographic, rather than nomothetic, approach to case formulation even within the context of a particular disorder.

Importantly, DBT achieves the four suggestions that we have highlighted in this article. Namely, it includes individuals with multiple and serious comorbidities, research trials on DBT have mostly assessed Axis I comorbidity over time and included broader measures of psychological distress (e.g., Harned et al., 2008; McMain et al., 2009), the treatment focuses on mechanisms of psychopathology (e.g., emotion dysregulation) rather than disorders, and it uses an integrated treatment approach. In fact, Linehan has often stated that DBT was intended to be a treatment for suicidal individuals with multiple psychological problems, and it only became a treatment for BPD because she was told in the 1980s that she could not receive research funding unless she identified a particular diagnostic category to treat (see National Institute of Mental Health, 2011).

The target hierarchy set forth in DBT can be applied in the treatment of multiple comorbidities. In the order of priority, the target list is to (a) decrease life-threatening and self-injurious behaviors, (b) decrease behaviors likely to interfere with therapy, and (c) decrease quality of life–interfering behaviors. All the preceding are carried out while simultaneously increasing effective behavioral skills. If a client does not engage in life-threatening or therapy-interfering behavior, the focus then turns to quality of life–interfering behavior, the category in which moderate-to-severe Axis I disorders, as well as other problems such as interpersonal difficulties and financial problems, would fall. The therapist would then want to establish a hierarchy of treatment priorities that fall within the category of quality of life–interfering behavior. That hierarchy may be determined by one or more variables such as subjective distress of the client, degree of interference with day-to-day functioning, degree of interference with obtaining long-term goals, functional relationships between various problems, and client preference. This type of clinical decision making is not currently represented in the research literature on treatment outcome for individual disorders. Yet, it is likely the sort of decision that most psychologists in clinical practice have to make on a regular basis. In fact, expert cognitive behavioral therapy clinicians have recommended that practitioners adopt the DBT hierarchy for case conceptualization and treatment purposes (e.g., Persons, 2008). We also suggest that an integrated treatment such as DBT be used to help structure the treatment of individuals with co-occurring disorders.

CONCLUSIONS

Given high rates of comorbidity across psychological disorders and the attention thus far that has been paid to primarily developing treatments for single disorders, there would appear to be many advances to be made in clinical research and practice. It is important for treatment outcome studies to reflect clinical realities and not be limited in relevance by a singular focus on one disorder in the absence of attention to comorbid disorders and problems. We have proposed four specific suggestions that, if broadly implemented, could impact our understanding of the relationship between co-occurring problems and lead to more effective and efficient psychosocial treatments.

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