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### Depression and Posttraumatic Stress Disorder Comorbidity

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#### Abstract and Keywords

Depression and posttraumatic stress disorder (PTSD) are highly comorbid diagnoses following a traumatic event. In this chapter, we explore a range of topics related to comorbid depression and PTSD, including impact, prevalence, shared risk factors, temporal priority, key research areas, intervention strategies, and future research directions. Given the overlap in symptoms and shared risk factors, some researchers have suggested that the comorbidity between depression and PTSD following a traumatic event may be better understood as a single general mood disorder rather than two separate disorders. We examine evidence supporting both possibilities. We briefly review the two research areas that have received the most attention, namely comorbidity related to military traumas and interpersonal abuse. Practical implications, assessments, interventions, and treatment recommendations are also discussed.

Keywords: posttraumatic stress disorder, PTSD, trauma, depression, comorbidity

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#### Introduction

##### Introduction to the Specific Comorbidity and Issues

Experiencing a traumatic event is often life-altering and in many cases results in serious mental health problems. Depression and posttraumatic stress disorder (PTSD) are two common mental health problems that co-occur following a traumatic event and result in serious consequences (e.g., suicidal thoughts and actions). In this chapter, we explore a range of topics related to comorbid depression and PTSD, including prevalence, shared risk factors, temporal priority, intervention strategies, and future research directions. Throughout the chapter we use the overarching term “depression” when referring to depressive mood in general, symptoms of depression, or a history of depression and the term “major depressive disorder” (MDD) when referring to the specific *Diagnostic and Statistical Manual of Mental Disorders* (fourth edition [DSM-IV-TR]; American Psychiatric Association, 2000) diagnosis.

##### Definitions of the Disorders and of Comorbidity in this Area

###### PTSD.

PTSD is an anxiety disorder that can develop after exposure to a traumatic event. Traumatic events include experienced events, witnessed events, or events that occur to a close other and may involve the threat of death or physical, sexual, or psychological harm to oneself or another (e.g., rape, combat, natural disasters, life-threatening illness, serious car accident, witnessing a violent death, etc.; American Psychiatric Association, 2000). Approximately 15% to 25% of individuals that experience a trauma develop PTSD (Breslau et al., 1998; Kessler,

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Sonnega, Bromet, Hughes, & Nelson, 1995). Symptoms of PTSD include reexperiencing the traumatic event through flashbacks or nightmares, avoidance or arousal to stimuli associated with the event, numbing of feelings after the event, and hypervigilance (American Psychiatric Association, 2000). Formal diagnostic criteria per the *DSM-IV-TR* (American Psychiatric Association, 2000) require that the symptoms last more than one month and cause significant impairment in social, occupational, or other important areas of a person's life.

### Prevalence.

Depression and PTSD are highly comorbid (Kessler et al., 1995). In the United States, the prevalence of MDD among adults is 6.7% annually and 16.6% in a lifetime, and for PTSD it is 3.5% annually and 6.8% in a lifetime (Kessler et al., 2005; Kessler, Chiu, Demler, Merikangas, & Walters, 2005). Twenty-six percent of individuals with PTSD are also diagnosed with current MDD (Maes, Mylle, Delmeire, & Altamura, 2000). Indeed, within eight months of a traumatic event, 23% of exposed adults develop MDD, with or without PTSD, often within days of the event (North et al., 1999).

Preexisting MDD increases risk for both exposure to a traumatic event and to developing PTSD once an individual is exposed to such an event (Breslau, Davis, Peterson, & Schultz, 1997). Additionally, the occurrence of first-time MDD is higher among individuals who develop PTSD following a trauma compared to those that do not develop PTSD following a trauma (Breslau, Davis, Peterson, & Schultz, 2000). Thus the relationship between depression and PTSD is multifaceted; depression appears to increase risk for PTSD and vice versa.

In the National Comorbidity Survey, among men and women with PTSD, lifetime prevalence of comorbid depression was approximately 48% (Kessler et al., 1995). Additionally, in a national sample of adolescents ages 12 to 17, among boys and girls with PTSD, the six-month prevalence of comorbid depression was 62% (Kilpatrick et al., 2003). Similar high rates of comorbidity have been found in both nationally representative samples as well as community samples (Breslau, Davis, Andreski, & Peterson, 1991; Kessler et al., 1995). High comorbidity has also been found among a variety of different samples, including military veteran primary care patients (36% comorbidity; Campbell et al., 2007), urban health care seeking women (58% comorbidity; Gill, Page, Sharps, & Campbell, 2008), and Oklahoma City bombing survivors (55% comorbidity; North et al., 1999).

### Impact.

A number of studies have compared individuals with comorbid PTSD and depression to those with only one of these disorders. Individuals with both current depression and PTSD suffer more negative mental and physical health consequences than those with either disorder alone (Sher, 2005). For example, compared to depressed patients without PTSD, depressed patients with PTSD have greater psychiatric symptom severity, higher levels of depression and hostility, higher rates of being discharged against medical advice, higher suicidal behaviors, and more medical problems (Calhoun, Wiley, Dennis, & Beckham, 2009; Cogle, Resnick, & Kilpatrick, 2009; Holtzheimer, Russo, Zatzick, Bundy, & Roy-Byrne, 2005; Momartin, Silove, Manicavasagar, & Steel, 2004; Oquendo et al., 2005; Shalev et al., 1998). Additionally, findings from a large-scale epidemiological survey found that individuals with comorbid current depression and PTSD were five times more likely to exhibit functional impairment compared to those with PTSD only (Mollica et al., 1999). These effects have been found across a range of samples, including clinical (Holtzheimer et al., 2005) and community samples (Shalev et al., 1998) and among victims of a range of traumatic events, including motor vehicle accidents (Blanchard, Buckley, Hickling, & Taylor, 1998; Koren, Arnon, & Klein, 1999), war-related trauma (Momartin et al., 2004; Skodol et al., 1996), natural disasters (Tural, Onder, & Aker, 2012), and interpersonal violence (Lipsky, Field, Caetano, & Larkin, 2005).

### Biological differences.

In addition to the clinical findings noted above, several studies have found biological differences between individuals with comorbid depression and PTSD and those with only one disorder. For example, one study using twin data from the Vietnam Era Twin Registry explored the genetic and environmental components of current depression and PTSD. They found that the, "best-fitting model for the MD-PTSD association included a substantial genetic correlation ( $r = .77$ ; 95% confidence interval [CI] .50–1.00) and a modest individual-specific environmental correlation ( $r = .34$ ; 95% CI .19–.48; Koenen et al., 2008, p. 109)." Other biological findings showing differences between comorbid PTSD and depression and either PTSD or depression alone include variations in sleep and facial electromyographic activity (Woodward, Friedman, & Bliwise, 1996), cortisol level (Sher, 2005), and cerebrospinal

fluid (Sher et al., 2005). Taken together these studies suggest that there is likely a biological component to the relationship between PTSD and depression.

### Risk factors.

Given the high comorbidity between depression and PTSD, several shared risk factors have been identified such as a history of prior depression, traumatic event severity, childhood and sexual abuse, and being female (Breslau et al., 1998; (p. 102) Carlson & Rosser-Hogan, 1991; Kendler, Gardner, & Prescott, 2002; Roberts, O'caka, Browne, Oyok, & Sondorp, 2008). In addition, Kilpatrick and colleagues (2003) found that among a national sample of adolescents, comorbid current PTSD and depression was more prevalent among females (compared to males), those with a history of familial drug use problems (compared to no history), those who had witnessed violence (compared to those who had not witnessed violence), and those who had experienced sexual and physical assault (compared to no assault).

### Shared symptom patterns.

In addition to a number of shared risk factors, depression and PTSD also share a number of related symptoms. A subset of PTSD symptoms have been found to be closely related to MDD symptoms, specifically numbing and dysphoria (Gros, Simms, & Acierno, 2010; Simms, Watson, & Doebbeling, 2002). Factor analyses found that these PTSD symptoms (numbing and dysphoria) load more strongly with MDD symptoms than with other specific PTSD symptoms, such as intrusion, avoidance, and arousal (Elhai, Contractor, Palmieri, Forbes, & Richardson, 2010; Gros et al., 2010). Among a large sample of veterans, participants reported the most severe current PTSD symptoms when comorbid MDD and PTSD was present; however, the PTSD only and the major depression only groups consistently reported similar scores on all PTSD symptom measures (Gros, Price, Magruder, & Frueh, 2012). These findings suggest that diagnostic tests for comorbidity may not accurately distinguish between the two disorders.

The similarity in symptoms and risk factors associated with comorbid PTSD and MDD following a traumatic event has led to questions related to whether these disorders should be considered a single mood disorder or if they are truly two distinct disorders. According to Sher (2005), "It is possible that some or all individuals diagnosed with comorbid PTSD and depression suffer from a separate psychobiological condition that can be termed 'post-traumatic mood disorder.' This condition is a result of a trauma, has features of both PTSD and depression, and is more severe than PTSD alone, or depression alone" (p. 208). We address this and other topics related to understanding the development and causal relationship between these two disorders next.

### Issues of Development, Temporal Priority, and Cause and Effect

Several possible explanations for the comorbidity of PTSD and depression have been proposed: (a) Depression is a reaction to PTSD, (b) PTSD is a reaction to depression, (c) the two disorders represent a single general traumatic stress factor, and (d) both disorders are separate and distinct reactions to a traumatic event.

Moreover, the classic conceptualization of Meyer (1986) is an excellent overall framework: (a) Disorder X may cause disorder Y; (b) disorder Y causes disorder X; (c) both X and Y are caused by some other factor; (d) each disorder arises independently, with no relation between them; (e) each disorder may impact the course of the other (improving or worsening), even if not caused by it.

These explanations highlight a key question: What does a diagnosis of comorbid PTSD and depression actually mean? We next review the evidence supporting some of these explanations.

There is not a clear temporal order to the comorbidity of depression and PTSD. In fact, the presence of one disorder increases the likelihood of onset of the other. Specifically, individuals with preexisting MDD have twice the risk for exposure to traumatic events and three times the risk of being diagnosed with PTSD following a traumatic event compared to those without a history of MDD (Breslau et al., 1997; Breslau et al., 2000; Bromet, Sonnega, & Kessler, 1998). Similarly, being diagnosed with PTSD increases the risk for developing MDD (including first onset of depression) by nearly three times compared to those exposed to a trauma that do not develop PTSD (Breslau et al., 2000). For example, among survivors of the Oklahoma City bombing, 55% of individuals with current PTSD

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developed MDD whereas fewer than 9% of trauma survivors without PTSD had MDD (North et al., 1999). In sum, such findings indicate that PTSD is a risk factor for MDD and vice versa—a history of MDD increases the risk for PTSD.

A number of studies support the idea that comorbidity of PTSD and depression following a traumatic event represents a single general traumatic stress factor (sometimes referred to as posttraumatic mood disorder; see Sher, 2005). One study found that among accident survivors from intensive care units (mostly motor vehicle accidents), the majority of survivors diagnosed with PTSD and depression did not differ from PTSD-only survivors in terms of variables that differentiated them from a group without PTSD. Specifically, at 3 and 12 months the same combination of variables was able to differentiate the PTSD-only group from the no-PTSD group, and the comorbid-PTSD and depression group from the no-PTSD group. Variables included event (p. 103) characteristics (intensive care unit admission, event severity), individual characteristics (prior psychiatric and trauma history), cognitive appraisals (anxiety about the potential impact of the injury), and acute responses (reexperiencing, arousal, and depression). Different predictors did emerge between the depression-only group and the comorbid group, suggesting that depression may exist as a separate disorder in some cases. The authors conclude:

It is clear that the bulk of psychopathology in the aftermath of trauma is best conceptualized as a general traumatic stress factor... it would seem that the PTSD and depression symptoms that constitute this factor are part of a shared vulnerability and thus have the same predictive variables. PTSD and comorbid PTSD/depression are effectively one and the same thing. The data suggest that depressive symptoms are often integral to PTSD and that to separate depression out as a distinct disorder when it occurs with PTSD is a somewhat arbitrary distinction.

(O'Donnell, Creamer, & Pattison, 2004, p. 1395)

These findings reinforce conclusions from the earlier studies we reviewed (e.g., Breslau et al., 1997; Breslau et al., 2000; O'Donnell et al., 2004) that comorbid PTSD and depression in the aftermath of trauma may best be conceptualized as a single traumatic stress construct with shared risk factors and symptoms.

The final explanation for the comorbidity between PTSD and depression is that the disorders are separate constructs. Supporting this position, several studies indicate variations among different outcomes related to PTSD or depression only and comorbid PTSD and depression. For example, a study of victims of motor-vehicle accidents found that PTSD and MDD were correlated, but independent, diagnoses following the trauma (Blanchard et al., 1998).

A recent study (Chiu et al., 2011) examined risk factors associated with comorbid depression and PTSD in an attempt to elucidate whether depression and PTSD represent separate constructs or a single general stress reaction to a traumatic event. Using a sample of retired World Trade Center firefighters, they found that the relationship between current PTSD and alcohol abuse was mediated by depression. Similarly, World Trade Center arrival time was associated with current depression, but this association was mediated by PTSD. The authors conclude, "Our models suggest that elevated depression and PTSD risk may be separate constructs. After controlling for comorbidity in the current study, we identified unique correlates for each condition, which support the premise that depression and PTSD are independent responses to trauma" (Chiu et al., 2011, p. 207).

In sum, there exists a complex relationship between depression and PTSD. All four explanations for this comorbidity have received research support. More research is needed to continue to explore this intricate relationship and to determine whether diagnoses of depression and PTSD following a traumatic event are separate constructs or one disorder.

### Types of Trauma

The majority of research on comorbidity of PTSD and depression generally falls into two categories of trauma types: (a) veterans/military-related trauma and (b) interpersonal violence/sexual assault. We briefly review these two areas of research.

### Veterans/Military-Related Trauma

Research on military veterans has consistently demonstrated a high prevalence of comorbid PTSD and depression. Moreover, this comorbidity makes veterans vulnerable to other significant problems such as suicidal ideation and behavior (Lemaire & Graham, 2010; Oquendo et al., 2005). Long-term impact of traumatic events on comorbid PTSD and depression has also been found, such as in a study of Korean War veterans conducted 50 years after the war. Findings indicated that a notable minority (17%) of veterans had comorbid current PTSD and depression and that this comorbidity was associated with impaired life satisfaction, reduced quality of life, and greater symptom severity (Ikin, Creamer, Sim, & McKenzie, 2010).

Some research has examined gender differences among veterans. For example, a recent study (Maguen, Cohen, Cohen, et al., 2012) examined health care utilization among male and female Operation Enduring Freedom/Operation Iraqi Freedom veterans with current PTSD. Findings indicate that males and females with comorbid PTSD and depression were more likely to have higher mental health, primary care, and emergency care use compared to the PTSD-only group. Notable gender differences emerged such that “women with comorbid PTSD and depression were 12.5 times more likely to have a mental health inpatient hospitalization compared to their female counterparts without depression and twice as likely to have a mental health hospitalization compared to men with comorbid PTSD and depression (p. 666).”

**(p. 104)** Veterans from Operation Enduring Freedom/Operation Iraqi Freedom who had higher combat exposure, childhood physical assault, and accident/disasters were significantly more likely to have current PTSD and MDD compared to veterans without these trauma experiences (Dedert et al., 2009). Among veterans from primary care settings, patients with current comorbid PTSD and depression report more severe depression, lower social support, more outpatient health care visits, more suicidal ideation, more emotional distress, more frequent mental health specialty visits, and correspondingly higher outpatient mental health care costs compared to depression-only patients (Campbell et al., 2007; Chan, Cheadle, Reiber, Unutzer, & Chaney, 2009). Additionally, antidepressants were prescribed to a higher proportion of depressed patients with PTSD compared to depression-only patients (61% vs .40%; Chan et al., 2009).

Veterans are at high risk for both PTSD and depression, and these have known negative sequelae. However, more research is needed to understand the many factors that may account for these findings. Veterans may experience trauma prior to their military service; thus, it is necessary to disentangle the impact of trauma prior to their military career as well as postdeployment experiences that impact their mental health.

### Interpersonal Violence

The comorbidity of depression and PTSD has been found to be consistently high among victims of rape or physical abuse. Approximately 50% of interpersonal violence victims report comorbid depression and PTSD (Nixon, Resick, & Nishith, 2004; Stein & Kennedy, 2001). Among a sample of Rwandan women with HIV, high levels of comorbidity were found such that 82% of women with PTSD also had depression, and of the women with depression, 63% also had PTSD (Cohen et al., 2009).

Compared to only one disorder, risk factors for comorbid PTSD and depression among victims of interpersonal or sexual violence include suffering an adult rape or military sexual trauma, greater psychological abuse, and higher rates/more severe symptoms of PTSD and depression (Lipsky et al., 2005; Maguen, Cohen, Ren, et al., 2012; Nixon et al., 2004). Similarly, in a sample of adolescents a history of sexual abuse was related to a higher prevalence of comorbid PTSD and depression than adolescents without such a history. The frequency and severity of the abuse increased the likelihood of the comorbidity (Brand, King, Olson, Ghaziuddin, & Naylor, 1996).

In addition, men with a history of childhood sexual abuse and current comorbid PTSD and depression are more likely to engage in risky sexual behavior compared to men without an abuse history (Holmes, Foa, & Sammel, 2005). Also, compared to men without a history of child abuse, men that experienced child abuse were found to be three times more likely to report high PTSD and depression symptoms among disaster workers following the terrorist attacks on September 11, 2001 (Leck, Difede, Patt, Giosan, & Szkodny, 2006).

Women who are victims of interpersonal and/or sexual trauma are also at an increased risk for comorbid PTSD and depression. One key component to developing appropriate treatments and interventions is to gain a better understanding of various coping trajectories that women with this comorbidity tend to use (Arriaga & Capezza,

2005). While the research on adult interpersonal violence described above focuses on women, men are also victims of interpersonal violence and suffer negative consequences, including depression and PTSD (Coker, Weston, Creson, Justice, & Blakeney, 2005). However, we were unable to locate any studies examining comorbid depression and PTSD among adult males who are victims of interpersonal violence. Certainly this is an important topic deserving future research attention.

### Assessment and Intervention Strategies

#### Assessment

Several considerations are relevant to assessment of comorbid PTSD and depression. As detailed earlier, individuals with this comorbidity are likely to have additional co-occurring Axis I and Axis II disorders. Thus assessment needs to address the full array of clinical presentations. It can be helpful to use a brief *DSM-IV* structured interview, such as the MINI Neuropsychiatric Interview (Sheehan et al., 1997) or the Structured Clinical Interview for *DSM-IV* (First, Spitzer, Gibbon, & Williams, 1997a; First, Spitzer, Gibbon, & Williams, 1997b). By assessing the wide range of psychiatric conditions, a profile of comorbidity, in its most complete sense, can help inform treatment planning.

Also, there may be many clinically relevant areas to assess other than just diagnoses. For example, clinical issues that may be prominent in comorbid PTSD and depression may include employment problems, family and social problems, motivational (p. 105) problems, and physical health problems (Evans & Hser, 2004).

Another key consideration (per earlier in this chapter) is the significant overlap between PTSD and depression symptoms. Disentangling which symptoms relate to each disorder and which are genuinely part of both is a challenge. Sometimes a life trajectory approach can be helpful (identifying which disorder arose first and which symptoms occurred in relation to onset of the disorders). However, for clinical purposes, the bottom line may simply be that the patient currently meets criteria for both PTSD and depression and would thus need clinical attention for both.

It is essential to use validated instruments. The most basic are screening tools that are brief, typically self-report, and identify the likelihood that the individual may have the disorder. In many settings, such as primary care, substance abuse treatment programs, and front-line community agencies, there may only be time for screening instruments, given time and staff limitations. For depression, the Patient Health Questionnaire-9 (Kroenke, Spitzer, & Williams, 2001) is one of the most common currently used screening instruments. The Beck Depression Inventory-2 (Beck, Steer, & Brown, 1996) is also widely used. It takes longer but provides cutoffs for different levels of depression and can be used as an outcome measure as well as a screening tool. For PTSD, the four-item screen designed for primary care is also widely used in a variety of settings (Prins et al., 2003). The PTSD Checklist (Weathers, Litz, Herman, Huska, & Keane, 1993) is longer but offers the advantage of mapping onto *DSM-IV* criteria for PTSD and offering the option to have a continuous measure for outcome purposes. For PTSD, it is also essential to obtain a screen for trauma itself, for which there are various screening tools, such as the Life Events Checklist (Gray, Litz, Hsu, & Lombardo, 2004) and the Stressful Life Events Screening Questionnaire (Goodman, 1998). If a patient screens positive on the screening tool (for depression, PTSD, or both), a trained assessor can then conduct a full diagnostic assessment using *DSM-IV* criteria (e.g., the MINI Neuropsychiatric Interview or the Structured Clinical Interview for *DSM-IV*, for example, per above). Following assessment, it would be important to obtain outcome measurement if the patient is entered into treatment. Measures for outcome assessment are plentiful. For depression, in addition to the Beck Depression Inventory already noted, there are the Hamilton Depression Scale (Hamilton, 1967), the Center for Epidemiological Studies Depression Scale (Radloff, 1977), and the Zung Self-Rating Depression Scale (Zung, 1965). For PTSD, in addition to the PTSD Checklist, there are the Trauma Symptom Inventory (Briere, 1995), which obtains a broad range of trauma-related symptoms, and the Modified PTSD Symptom Scale (Falsetti, Resnick, Resick, & Kilpatrick, 1993), which obtains frequency and severity ratings for each of the 17 *DSM-IV* PTSD criteria (and can be used for outcome assessment).

#### Intervention

Several general points related to treatment of comorbidity are notable before we explore specific findings on PTSD–

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depression comorbidity.

First, an overall framework on comorbidity treatment can be helpful. Treatments can be categorized into the following approaches (for expanded version see; Najavits et al., 2008; Weiss & Najavits, 1997).

- *Integrated– continuous*: Designed to treat both disorders at the same time, by the same provider, focusing on linkages between them throughout.
- *Integrated– phase based*: Focuses primarily on one disorder, then the other, by the same provider and with some attention to both disorders throughout.
- *Sequential*: Treats one disorder, then the other (may be by different providers and may be based on response to the initial treatment, such that the patient improves in one disorder and then addresses the other).
- *Parallel*: Also known as concurrent (i.e., treat each disorder but in separate treatments), often by different providers.
- *Single*: Treat just one disorder.

Second, even treatments designed for PTSD or depression alone may have an impact on the other disorder—even if not designed specifically to treat it; many treatments have generalized impact beyond their targeted disorder (Najavits et al., 2008; Watts, 2007).

Third, in PTSD treatment trials, a sizeable percentage of patients inevitably also had comorbid depression, even if it was not assessed, given what we have reviewed above on substantial comorbidity of PTSD and depression. The same holds for depression studies in terms of inclusion of PTSD patients.

At this point, we know of only one behavioral therapy model specifically designed a priori (p. 106) to address PTSD–depression comorbidity. (For information on pharmacotherapies, see Friedman, 2002; Sher et al., 2012; Stewart & Wrobel, 2009). The behavioral model is described by Nixon and Nearmy (2011) and represents a combination of already existing cognitive behavioral treatment components that have received evidence-based support for depression or PTSD separately: behavioral activation for depression in early sessions, followed by exposure therapy and cognitive restructuring for PTSD in later sessions, for a total of 12 to 16 weeks per patient. This approach fits the “integrated phase based” category described above. They found, in a sample of 14 patients who completed treatment, a significant decrease in PTSD and depression severity between pre- and midtreatment assessments and a further decrease in PTSD from mid- to posttreatment. Gains were maintained at three-month follow-up; 60% of the sample no longer met PTSD criteria and 70% no longer met MDD criteria at that point. This treatment package is thus a highly promising one for future research.

Another example of a treatment trial relevant to PTSD–depression comorbidity is that of Dunn et al. (2007). They evaluated the impact of an evidence-based depression treatment (self-management therapy) on patients with depression and chronic PTSD. Specifically, they randomized 101 male veterans with chronic combat-related PTSD and depressive disorder to the self-management therapy condition versus an active-control therapy. Their primary outcomes, using an intent-to-treat design, were subjective and objective PTSD and depression scales at pretest, posttest, and 3-, 6-, and 12-month follow-up. Secondary outcomes included treatment compliance, satisfaction, treatment-targeted constructs, functioning, service utilization, and costs. They found that self-management therapy had modestly greater improvement on depression symptoms at treatment completion, but these were not maintained at follow-up. They also found that psychiatric outpatient utilization and overall outpatient costs were lower with self-management therapy. They concluded that “Despite success in other depressed populations, self-management therapy produced no clinically significant effect in depression with chronic PTSD” (p. 221). However, future research could potentially evaluate the impact of the treatment in other PTSD–depression populations, as results for male veterans with chronic combat-related PTSD may not generalize to other populations.

Overall, there is a striking dearth of treatments and treatment outcome trials on PTSD–depression comorbidity, considering the large number of patients affected, and its notable impact. However, the decades ahead are likely to see new developments in these areas, given the increasingly prominent focus on comorbidities of all kinds and the greater prominence of PTSD-related research specifically.

### Practical Issues and Clinical Guidelines for Practitioners

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Several practical suggestions can be offered that may help inform care, drawn from earlier work on comorbidity treatment (e.g., Najavits et al., 1997; Najavits, Ryngala et al., 2008; Weiss & Najavits, 1997).

- (a)** When patients present with comorbid PTSD and depression (or any other comorbidities), they should be given care that addresses all current disorders.
- (b)** Treatment of comorbid disorders is generally more complex than treatment of either disorder alone. The clinician needs to monitor symptoms of both disorders and how they interact over time. Also, the clinician should provide psychoeducation so that the patient can recognize and chart symptoms of each disorder.
- (c)** Patients may be more motivated to work on one disorder than the other and may need encouragement to attend to both for as complete a recovery as possible.
- (d)** The clinician too may feel more connection or engagement with one disorder over the other and thus may lack balanced attention to the comorbidity. For example, PTSD may evoke more sympathy as it is so clearly connected to an external event (the trauma); or, alternatively, PTSD may be more likely to be ignored as historically, at least, it typically has been relative to depression (Najavits et al., 2008).
- (e)** Both depression and PTSD are highly associated with additional comorbid disorders that have major clinical impact, such as substance use disorders and Axis II disorders. The treatment course and strategies may need to be altered when such additional comorbidities are present.
- (f)** Depression or PTSD subtypes may also impact the course and treatment of the disorders, such as depression with or without psychotic features, early or delayed PTSD, and so on.
- (g)** The clinician should recognize that there may be various subpopulations with elevated rates (p. 107) of PTSD and depression, including women, the homeless, adolescents, veterans, and individuals who are incarcerated. These patient groups may need different approaches to care or adapted treatments relevant to their needs.
- (h)** The clinician should provide referrals to additional treatments and conduct a thorough assessment of case management needs. Patients with depression and PTSD may need treatment of physical health problems, medication consultation, couples or family treatment, parenting skills, and so on. Each of the disorders can additively impact their functioning, and, in general, the more treatment and the more varied the treatment, the better.

Also, see Campbell et al. (2007) for an excellent guide to PTSD–depression comorbidity in relation to primary care in particular but that also has relevance more broadly. They observe that this comorbidity is common, yet many patients are treated solely for depression. Moreover, patients with the comorbidity, compared to those with depression alone, have a more severe clinical profile, including poorer prognosis, delayed response to depression treatment, higher likelihood of being disabled, a more persistent course of illness, increased prevalence of suicidal ideation, and less social support. In short, they have an increased illness burden that likely requires different treatment strategies than depressed-only patients. They state, “In summary, depressed patients with positive PTSD screens present differently from those with depression alone. Relative to what is known about effective primary care–based depression treatment (Belnap et al., 2006; Kilbourne, Rollman, Schulberg, & Pincus, 2002) less is known about primary care treatment of PTSD and MDD-PTSD comorbidity” (p. 716). They emphasize the need for further treatment outcome research on this population.

Finally, one study found empirically that patients with PTSD and depression, compared to depressed patients without PTSD, had higher costs of treatment. They used specialty mental health treatments and antidepressant medications more and had overall higher mental health care costs. Similarly, Fikretoglu et al. (2009) found that most military members with PTSD did not seek out mental health treatment but that, of all the predictors, comorbid depression most increased the likelihood of seeking treatment. Overall, these studies suggest increased treatment seeking (and associated costs) among people with PTSD and depression. These studies, however, were in veteran and military populations, respectively, and so more research is needed before generalizing to other populations.

### Future Directions for Research and Clinical Practice

1. There is a need for practice guidelines that address the comorbidity of PTSD and depression. Such guidelines might address key clinical issues such as how to address both disorders at the same time and how to monitor patients for potential harm to self or others (which may be increased due to each disorder and their comorbidity).

2. Future research and clinical practice should address additional comorbidities that commonly co-occur with PTSD and depression, such as substance use disorders and Axis II disorders, which can have major impacts on clinical presentation.
3. Future treatment outcome research on PTSD or depression treatments should include rates of comorbid disorders, even if the treatments are not designed to address comorbidity. Treatments often have impact beyond the targeted disorder, and such information could be valuable for identification of treatment pathways.
4. Patients with PTSD and depression come through many different treatment “doors”—that is, systems of care, including primary care, specialty care, correctional settings, schools, and veterans hospitals. It will be important to address how treatment may differ depending on setting-based issues such as provider training and workload issues, culture of the setting, costs, and so on. For example, in primary care, the focus may be primarily on brief education and referral to specialty care. In specialty care, the focus would be more intensive, such as multimodal approaches (e.g., medications plus behavioral therapies) as well as long-term management of the disorders.
5. There is a need for more widespread screening and assessment of both PTSD and depression. Including brief self-report screening tools for each disorder as part of the intake process may help promote early case-identification and treatment.
6. More research is needed on the etiology and presentation of comorbid PTSD and depression, including order of onset of the disorders, social and biological pathways, and subtypes of the disorders. All of these may impact treatment response as well as are important for scientific advancement.
- (p. 108) 7. Various subpopulations (e.g., women, veterans, military, victims of child abuse) have particularly high rates of PTSD–depression comorbidity, and there may be a need for specialized or targeted treatments for them. For example, children and adolescents likely need treatments that take into account their developmental concerns and use language, examples, and exercises relevant to them.
8. More research examining comorbid PTSD and depression among male victims of interpersonal violence is needed.
9. Additional research is needed on the impact of comorbidity following less-studied traumatic experiences, such as life-threatening illness, witnessing a violent death, and so on.
10. There is a definite need for more treatment development and treatment outcome trials focused on PTSD–depression comorbidity, particularly considering the large number of patients affected by the comorbidity and its notable impact.

### Summary and Conclusions

Comorbid depression and PTSD is highly prevalent and results in many negative consequences. The two disorders have similar impact, share risk factors, and share symptoms. Given the similarities between the two disorders, researchers have questioned whether the diagnoses of PTSD and depression following a traumatic event are actually two separate disorders or one general mood disorder. Understanding this distinction may help in developing relevant intervention and treatment efforts for this comorbidity. The majority of research on PTSD and depression comorbidity has focused on traumas related to military experience and interpersonal violence victimization. It is unclear whether these findings would generalize to other traumatic experiences.

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