

Eating Disorders, Trauma, and Comorbidity: Focus on PTSD

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This paper reviews the relationships among eating disorders (EDs), trauma, and comorbid psychiatric disorders, with a particular focus on posttraumatic stress disorder (PTSD). There have been a number of significant conclusions in the literature, applicable to clinical practice, which are essential to the understanding of the relationships between EDs and trauma. These are summarized as follows: a) childhood sexual abuse (CSA) is a nonspecific risk factor for EDs; b) the spectrum of trauma linked to EDs has been extended from CSA to include a variety of other forms of abuse and neglect; c) trauma is more common in bulimic EDs compared to nonbulimic EDs; d) findings linking EDs with trauma have been extended to children and adolescents with EDs; e) findings linking EDs with trauma have been extended to boys and men with EDs; f) multiple episodes or forms of trauma are associated with EDs; g) trauma is not necessarily associated with greater ED severity; h) trauma is associated with greater comorbidity (including and often mediated by PTSD) in ED subjects; i) partial or sub-threshold PTSD may also be a risk factor for BN and bulimic symptoms; and j) the trauma and PTSD or its symptoms must be expressly and satisfactorily addressed in order to facilitate full recovery from the ED and all associated comorbidity.

The issues of psychiatric comorbidity and trauma history are unavoidable for clinicians who diagnose and treat patients with eating disorders (EDs). It is very rare that ED patients are *simply* that—individuals with *just* eating disorders. More commonly, they are also individuals with a host of other conditions or symptoms such as mood, anxiety, substance use, and/or

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personality disorders as well as somatoform, dissociative, impulse control, disruptive behavior, and personality disorders. In point of fact, when dealing with EDs, comorbidity is effectively “the rule rather than the exception,” particularly among those with bulimic features (Brewerton, 2004, 2005; Lilienfeld, 2004). Importantly, all of these comorbid conditions have been found to be associated with histories of prior traumatic experiences as well as posttraumatic stress disorder (PTSD) (Brady, Killeen, Brewerton, & Lucerini, 2000; Brewerton, 2004).

This paper will briefly review the relationships among EDs, trauma, and comorbidity, with a particular focus on PTSD. There have been a number of significant conclusions in the literature, applicable to clinical practice, that are essential to the understanding of the relationships between EDs and trauma. These conclusions are summarized in Table 1 and are reviewed more completely in the following discussion.

CHILDHOOD SEXUAL ABUSE IS A NONSPECIFIC RISK FACTOR FOR EDs

The earliest studies in the ED field focused on the role of childhood sexual abuse (CSA), which is a specific and particularly malignant form of trauma. At this point, it has been clearly established that CSA is a significant although nonspecific risk factor for EDs. This nonspecificity simply means that CSA is also a risk factor for other psychiatric disorders, as well. These findings have been extensively examined elsewhere (Brewerton, 2002, 2004, 2005, 2006; Jacobi, Hayward, de Zwaan, Kraemer, & Agras, 2004; Jacobi, Morris, & de Zwaan, 2004; Molinari, 2001; Smolak & Murnen, 2002; Wonderlich, Brewerton, Jolic, Dansky, & Abbott, 1997). For example, through a meta-analysis of 53 research studies, Smolak and Murnen (2002)

TABLE 1 Summary of Significant Relationships between Eating Disorders and Trauma

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- Childhood sexual abuse (CSA) is a nonspecific risk factor for EDs.
 - The spectrum of trauma associated with EDs has been extended from CSA to a variety of other forms of abuse and neglect.
 - Trauma is more common in bulimic EDs compared to nonbulimic EDs.
 - Findings linking EDs with trauma have been extended to children and adolescents with EDs.
 - Findings linking EDs with trauma have been extended to boys and men with EDs.
 - Multiple episodes or forms of trauma are associated with EDs.
 - Trauma is not necessarily associated with greater ED severity.
 - Trauma is associated with greater comorbidity (including and often mediated by PTSD) in ED subjects.
 - Partial or subthreshold PTSD may also be a risk factor for BN and bulimic symptoms.
 - The trauma and PTSD or symptoms must be expressly and satisfactorily addressed in order to facilitate *full* recovery from the ED and all associated comorbidity.
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Note. PTSD=post-traumatic stress disorder.

concluded that CSA is indeed a risk factor for EDs, particularly BN or those with bulimic symptoms. This conclusion was true whether or not the study examined the rates of EDs in CSA victims or the rates of CSA in ED subjects. In addition, Johnson, Cohen, Kasen and Brook (2002) reported results from a unique prospective, longitudinal study over an 18-year period and found that sexual abuse is an important predictor of BN and other bulimic disorders. These types of findings led investigators to examine a host of other types of trauma and neglect.

THE SPECTRUM OF TRAUMA HAS BEEN EXTENDED BEYOND CSA

The spectrum of traumatic experiences associated with EDs has been extended from CSA to many other forms of victimization, trauma, and neglect, including but not limited to sexual assault (rape and molestation) during adulthood, sexual harassment, physical abuse and assault, emotional abuse, emotional and physical neglect (including food deprivation), teasing, and bullying (Dansky, Brewerton, O'Neil, & Kilpatrick, 1997; Johnson et al., 2002). Collectively, these data suggest that essentially any experience that can produce PTSD, partial PTSD, or any form of clinically significant anxiety may increase the probability of developing an ED.

TRAUMA IS MORE COMMON IN BULIMIC EDS COMPARED TO NONBULIMIC EDS

The preponderance of the evidence suggests that trauma histories are much more commonly associated with BN, anorexia nervosa (AN) binge-purge type, and EDNOS characterized by bulimic symptoms, such as binge eating disorder (BED) or "purging disorder," than with AN restricting type or EDNOS not associated with bulimic symptoms (Brewerton, 2004, 2005, 2006; Grilo & Masheb, 2002; Striegel-Moore, Dohm, Pike, Wilfley, & Fairburn, 2002; Wonderlich et al., 1997). For example, in a recent study by Carter, Bewell, Blackwell, and Woodside (2006), patients with AN binge-purge type had significantly higher rates of CSA that predated the onset of their ED than patients with AN restricting type.

FINDINGS LINKING TRAUMA WITH EDS IN ADULTS HAVE BEEN EXTENDED TO CHILDREN AND ADOLESCENTS WITH EDS

Once established as a risk factor for EDs in adult women, other studies emerged that showed similar findings for children and adolescents with EDs (for a review, see Brewerton, 2006), including studies using large numbers

of adolescents from national (Ackard, Neumark-Sztainer, & Hannan, 2003; Ackard, Neumark-Sztainer, Hannan, French, & Story, 2001; Edgardh & Ormstad, 2000) and community samples (Ackard & Neumark-Sztainer, 2002; Fonseca, Ireland, & Resnick, 2002; Neumark-Sztainer, Story, Hannan, Beuhring, & Resnick, 2000; Perkins & Luster, 1999). In addition, the relationships between trauma and binge-purge behaviors have also been shown to persist in sexually abused children long past the time of abuse (Swanston, Tebbutt, O'Toole, & Oates, 1997).

In a controlled comparison study, Wonderlich et al. (2000) contrasted 20 sexually abused girls with 20 age-matched non-abused girls between the ages of 10 and 15 years. All participants completed a battery of psychometric instruments, including the Kids' Eating Disorders Survey, the McKnight Risk Factor Survey, and the Body Rating Scale for Adolescents. The participants who had been abused had higher rates of weight dissatisfaction, reported more dieting and purging behaviors, ate significantly less when emotionally upset, were more likely to desire thinner body types, and were less likely to exhibit perfectionistic tendencies than the control girls. These findings suggest that sexual abuse tends to predispose female children and adolescents to ED-related symptoms.

Traumatic experiences may even extend to the prenatal and perinatal period of life. Studies examining the impact of complications during pregnancy and the perinatal period on the development of ED symptoms during adolescence are scarce and worthy of mention. It can be argued that intrauterine and/or perinatal traumas may be the very first psychological events that could potentially influence the development of EDs. Although one study did not find any association between prenatal and perinatal trauma, and the subsequent development of EDs (Feingold, Sheir-Neiss, Melnychuk, Bachrach, & Paul, 2002), other studies have found higher-than-expected rates of such complications in patients with EDs. For example, Favaro, Tenconi, and Santonastaso (2006) found that patients with both AN and BN had higher rates of birth complications than controls. Interestingly, the common denominator of these insults was the compromise of oxygenation or blood flow to the fetus.

FINDINGS LINKING TRAUMA WITH EDS HAVE BEEN EXTENDED TO BOYS AND MEN WITH EDS

Data have emerged that support the association between EDs, victimization, and psychiatric comorbidity in males, both men and boys (see Brewerton, 2004, 2005, 2006).

Kinzl, Mangweth, Traweger and Biebl (1997) reported that long-lasting adverse familial relationships, particularly in connection with physical abuse, appeared to increase the risk for EDs in men.

Grilo and Masheb (2001) found that outpatients with BED reported a wide range of traumatic childhood experiences that did not differ by gender or obesity status. Prior emotional abuse was associated with greater body dissatisfaction, depression and lower self-esteem in both men and women, while sexual abuse was associated with greater body dissatisfaction in men.

Mitchell and Mazzeo (2005) reported that physical abuse and physical neglect were associated with disordered eating in a group of 168 undergraduate males.

Lipschitz, Winegar, Hartnick, Foote, & Southwick (1999) reported that hospitalized adolescent males with PTSD were more likely to have comorbid EDs, anxiety disorders, and somatization. In a survey of a representative sample of 9,943 Connecticut students in grades 7, 9 and 11, Neumark-Sztainer, Story, Hannan, Beuhring, & Resnick (2000) reported higher rates of disordered eating among boys and girls who reported sexual or physical abuse compared to those who did not report abuse. In addition, in the abused group, there were low levels of family communication, parental caring, and expectations. These relationships between trauma and disordered eating remained even after controlling for differences in psychosocial and familial factors. The odds ratio (OR) for the development of disordered eating following sexual abuse was 1.99 for girls and 4.88 for boys, and following physical abuse was 2.0 for girls and 1.95 for boys.

Fonseca, Ireland, & Resnick (2002) also examined the role of sexual abuse in relationship to extreme weight control measures in a large group of adolescents ($n=9,042$) in Connecticut. Extreme weight control behaviors, such as intentional vomiting, use of diet pills, laxatives, or diuretics for weight loss, were compared with those who reported none of these behaviors. Significant risk factors for boys included a history of sexual abuse ($OR=2.8$, $p < 0.001$).

Using one of the largest sample sizes ($N=81,247$) of any previous study related to abuse and EDs, Ackard, Neumark-Sztainer, and Hannan (2003) examined the rates of self-reported date rape and violence in high school girls and boys. They convincingly demonstrated the associations of these events with ED behaviors, particularly purging behaviors, in both genders.

MULTIPLE EPISODES OR FORMS OF TRAUMA ARE ASSOCIATED WITH EDs

A number of reports have concluded that bulimic disorders are linked to multiple episodes or forms of abuse (Ackard & Neumark-Sztainer, 2002, 2003; Leonard, Steiger, & Kao, 2003; Schoemaker, Smit, Bijl, & Vollebergh, 2002). In a study by Leonard et al., (2003), women with BN reported higher levels of CSA, childhood physical abuse, and combined childhood sexual/physical abuse compared to the non-eating-disordered women. Bulimic women had more psychopathology than nonbulimic women, and there was

an association between the severity of comorbid psychopathology and the severity of trauma. Dissociation and submissiveness were also related to the severity of prior abuse. Abuse occurring during adulthood was almost always preceded by prior childhood abuse. Only one (6.7%) of the 15 bulimic women who reported abuse during adulthood did not report some form of previous childhood abuse. These findings suggest an association between certain psychopathologic traits and the likelihood of multiple episodes or types of abuse.

Ackard and Neumark-Sztainer (2003) used the Minnesota Student Survey to examine associations between multiple forms of sexual abuse (including date rape, sexual abuse by an adult non-family member, and sexual abuse by an adult family member) and disordered eating behaviors among adolescents. After controlling for grade and race, girls with multiple forms of abuse had significant ORs for vomiting (4.1), laxative abuse (5.1), diet pill abuse (4.3), bingeing (2.2), fasting (2.3), and thinking about/attempting suicide (6.12). Boys with multiple forms of abuse had statistically significant ORs for vomiting (24.2), laxative abuse (29.2), diet pill abuse (17.3), bingeing (5.6), fasting (2.3), and thinking about/attempting suicide (9.5). Of particular interest in this study was that boys and girls with multiple forms of sexual abuse reported similar rates of bingeing (42.6% vs. 41.1%), taking diet pills (22.3% vs. 26.5%), and vomiting (18.7% vs. 23.3%), but boys sexually abused in multiple ways had higher rates of laxative abuse than girls (22.4% vs. 7.4%). It is notable that the ORs for purging behaviors were much more robust than those for binge eating, thereby linking sexual abuse experiences more closely to purging than to bingeing, particularly when there are multiple forms or occurrences of abuse. These data also confirm links between sexual abuse experiences and psychiatric comorbidity such as suicidality, which are often associated with bulimic symptomatology.

Finally, in a population-based study ($N=1,987$), Schoemaker et al. (2002) found that a history of multiple abuses was a specific risk factor for BN as well as "dual diagnosis disorder" (i.e., cases with comorbid psychiatric and substance use disorders). Nearly all BN cases that experienced multiple episodes of childhood abuse also showed comorbid anxiety and/or mood disorders.

TRAUMA IS NOT NECESSARILY ASSOCIATED WITH GREATER ED SEVERITY

The comprehensive review by Wonderlich et al. (1997) found that a history of CSA was not associated with greater ED severity as measured by ED symptom frequency. This finding has been replicated in more recent studies of trauma in EDs. Certain psychopathological features, however, were found to be higher in the abused versus nonabused patients, such as higher

scores on the interpersonal distrust and interoceptive awareness subscale scores on the Eating Disorder Inventory (Matsunaga et al., 1999).

Hartt and Waller (2002) examined the relationship between the severity of four forms of reported child abuse (emotional abuse, neglect, physical abuse, sexual abuse) and bulimic psychopathology in a sample of 23 bulimic women (15 with BN, 5 with AN binge-purge type, and 3 with BED). Results indicated no dimensional relationship between any of the 4 forms of child abuse and bulimic pathology. However, a positive correlation was found between overall abuse severity and levels of dissociation as measured by the Dissociative Experiences Scale (DES-II) scores ($r=0.4$, $p < 0.05$), with neglect and sexual abuse accounting for the majority of the variance.

TRAUMA IS ASSOCIATED WITH GREATER COMORBIDITY (INCLUDING PTSD) IN ED SUBJECTS

Trauma-related disorders include a spectrum of psychiatric and medical conditions that span Axes I, II, and III of the *Diagnostic and Statistical Manual of Mental Disorders, 4th edition (DSM-IV)* (American Psychiatric Association, 1994; see Brewerton, 2004 for a review). This trauma-related spectrum includes eating, affective, anxiety, substance use, dissociative, somatoform, impulse control, and disruptive disorders on Axis I, Cluster B disorders on Axis II, and most of the major leading causes of death and disability on Axis III. Increasing evidence bears out the powerful psychobiological underpinnings of trauma on many developing systems, including the central and autonomic nervous systems, as well as the endocrine, immune, and cardiovascular systems.

One of the consistent findings in the literature is that a trauma history in an ED patient tends to be associated with significant psychiatric comorbidity (Dohm et al., 2002; Wonderlich et al., 1997). This is especially true when there is a current or lifetime history of PTSD (Dansky, Brewerton, & Kilpatrick, 2000; Kessler, 2000; Kessler, Davis, & Kendler, 1997; Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995). Conversely, the presence of lifetime psychiatric comorbidity is highly associated with a lifetime history of PTSD.

The National Women's Study (NWS; Dansky et al., 1997) remains the most comprehensive investigation of the relationship of trauma history and PTSD to EDs and comorbidity. The lifetime prevalence rate of PTSD was 37% in subjects with BN as compared to 12% in non-ED subjects ($p < 0.001$). The current prevalence rate of PTSD was 21% in bulimic subjects as compared to 4% in the non-ED subjects ($p < 0.001$). Subjects with BED had significantly higher lifetime rates of PTSD than non-ED subjects (22% vs. 12%, $p < 0.01$), while current PTSD prevalence rates were similar. Significantly, BN prevalence rates were significantly higher only in subjects with histories of rape with PTSD (10.4%), compared with subjects with histories

of rape without PTSD (2.0%) and those subjects with no history of rape (2.0%). These results suggest that it is PTSD, rather than an abuse history per se, that best forecasts the emergence of BN. In addition, PTSD predicted comorbidity with major depression and alcohol abuse/substance dependence in conjunction with BN.

In the National Women's Study, links between trauma, dissociative symptoms and BN were also found (Brewerton, Dansky, Kilpatrick, & O'Neil, 1999). BN subjects reported significantly more "forgetting" of traumatic events (27%) than BED subjects (12%) or non-ED subjects (11%). In a multiple linear regression, "forgetting" strongly predicted the presence of a lifetime history of PTSD, childhood rape, major depression, molestation, emotional problems in the family, laxative abuse, greater number of victimization experiences, younger age, and vomiting.

Other studies have also indicated that the presence of dissociation strongly predicts psychiatric comorbidity. Based on these results, it has been postulated that purging behaviors, such as vomiting and laxative abuse, rather than binge eating per se, are maladaptive behaviors linked to PTSD and major depressive disorder (MDD), and that they promote avoidance, emotional blunting and numbing, and amnesia for painful traumatic memories. Of course, not all patients with EDs have been victimized. However, data from the National Women's Study suggest that the majority of bulimic patients have. The index of suspicion increases considerably as the number of comorbid psychiatric disorders increases (Brewerton, 2004).

Despite a plethora of studies demonstrating an association between trauma and bulimic EDs, a paucity of data exists on the prevalence of PTSD in individuals with EDs. There are no studies on the prevalence of subclinical or subthreshold PTSD in EDs. In a clinical study that supports the link between PTSD and EDs, Gleaves, Eberenz, and May (1998) reported that 74% of 293 women admitted to a residential treatment center and who completed a PTSD symptom scale reported a traumatic experience and 52% reported symptoms consistent with a diagnosis of PTSD. Of 112 AN patients, 47% met PTSD criteria, and of 103 BN patients, 62% met PTSD criteria. It was not clear from these data what percentage of the AN patients were of the binge-purge subtype versus the restrictor subtype.

In a clinical sample of recovered BN patients, abused patients showed a trend toward more frequent lifetime diagnoses of PTSD and substance dependence compared with nonabused subjects (Matsunaga et al., 1999). Lipschitz et al. (1999) reported that hospitalized adolescent males with PTSD were more likely to have comorbid EDs as well as other anxiety disorders and somatization. In a large sample of over 24,000 US veterans, Striegel-Moore, Garvin, Dohm & Rosenheck (1999) found that women with EDs had higher rates of anxiety disorders, including PTSD, and borderline personality disorder. Finally, Thompson, Wonderlich, Crosby, and Mitchell (2001) evaluated the occurrence of PTSD symptoms and other psychopathology in

97 women who had (a) been sexually abused in childhood only, (b) been raped in adulthood only, (c) been both sexually abused during childhood and raped during adulthood, or (d) not been ever sexually abused. All subjects were assessed using the Structured Clinical Interview for DSM-IV (SCID-I/P) and the Modified PTSD Symptom Scale self-report. Women who reported sexual trauma were significantly more likely to exhibit psychopathology than controls, including higher rates of both PTSD and EDs.

PARTIAL OR SUBTHRESHOLD PTSD MAY ALSO BE A RISK FACTOR FOR BN AND BULIMIC SYMPTOMS

A number of studies over the past several years have recognized the clinical importance of partial or subthreshold PTSD. This concept has been defined in various ways by different authors, but all have in common the presence of significant PTSD symptoms in one or more of the three clusters (reexperiencing, hyperarousal, and avoidance), but which fall short of the full *DSM-IV* criteria (American Psychiatric Association, 1994). Some studies have argued that the boundaries for the full diagnostic criteria for PTSD are too strict (Mylle & Maes, 2004; Schutzwohl & Maercker, 1999).

In comparison to those with no PTSD, individuals with partial or subthreshold PTSD have been reported to have higher rates of panic attacks (Pfefferbaum, Stuber, Galea, & Fairbrother, 2006), dissociative symptoms (Carlier, Lamberts, Fouwels, & Gersons, 1996), alcohol and substance abuse (Lipschitz et al., 2003), suicidality (Lai, Chang, Connor, Lee, & Davidson, 2004), other functional limitations (Stein, Walker, Hazen, & Forde, 1997), poorer outcomes (Schnurr et al., 2000), less sense of well-being and satisfaction with life (Lai et al., 2004; Van Zelst, de Beurs, Beekman, van Dyck, & Deeg, 2006), higher use of health care (Van Zelst et al., 2006), and higher disability (Lai et al., 2004; Van Zelst et al., 2006). Like those with PTSD, these individuals are often misdiagnosed and mental health resources are under-utilized (Grubaugh et al., 2005). Like with EDs and PTSD, partial or subthreshold PTSD occurs more frequently in women (Lai et al., 2004; Stein et al., 1997).

Partial or subthreshold PTSD has not been studied in patients with EDs. However, in the National Women's Study, unpublished preliminary analyses indicate that in addition to the 37% of women with BN who had a lifetime history of PTSD, another 28% met the criteria for one (15%) or two (13%) clusters of PTSD symptoms. Only 34% of women with BN did not meet criteria for *any* PTSD symptom clusters in their lifetimes as compared to 63% of non-bulimic women ($p < 0.01$). In addition to the 22% of women with BN who had all three clusters indicative of current PTSD, another 26% met the criteria for one (17%) or two (9%) clusters of current PTSD symptoms. Only 52% of women with BN from this non-treatment seeking, representative,

national sample did not meet the criteria for any current PTSD symptom clusters as compared to 80% of non-bulimic women ($p < 0.001$).

Using the National Women's Study database, we found that women who purged but did not binge ("purging disorder") had higher rates of rape, molestation, lifetime PTSD, major depression, and substance abuse/dependence when compared to women who never purged or binged (Brewerton, Dansky, O'Neil, & Kilpatrick, 2003).

THE TRAUMA AND PTSD SYMPTOMS MUST BE ADDRESSED FOR RECOVERY

The clinical implications of the preceding areas are considerable and affect several practice arenas, including the clinical evaluation and treatment of ED patients with comorbid PTSD. The following section reviews several aspects of clinical evaluation and treatment in more detail.

EVALUATION AND TREATMENT

Evaluation

Not only should a thorough assessment of prior traumatic experiences be standard practice in the evaluation of patients with EDs (see chapter by Briere and Scott in this issue), a comprehensive assessment of PTSD and other comorbid disorders is also crucial. A thorough evaluation and correct diagnosis leads the way to a specific and appropriate treatment plan. Evidence suggests that PTSD tends to be under-diagnosed in general clinical practice (Zimmerman & Mattia, 1999). Many patients are not comfortable with revealing major traumatic events during the initial stages of treatment, so evaluation is best seen as an ongoing process that merges into treatment and shapes it over time.

Assessment instruments can be helpful in identifying which traumatic events a person has experienced (trauma exposure measures) as well as whether the individual has PTSD symptoms related to the acknowledged traumas. The clinician has a wide array of both trauma and PTSD assessment instruments to choose from. There are several excellent sources of information on this topic, including the book by Wilson and Keane (2004) and the website of the National Center for PTSD (www.ncptsd.va.gov). There is no one ideal measure for either traumatic experiences or PTSD. It depends upon the needs and goals of the clinician. Considerations in choosing specific instruments include cost, time required, age and reading level of the patient, number and types of traumas, and whether the clinician needs an instrument for diagnostic purposes or for measurement of symptom frequency and intensity over time.

INTERVIEWS

If a diagnostic instrument is used, structured interviews tend to provide the most valid results but take longer to administer. Most clinical researchers would agree that the “gold standard” for PTSD is the Clinician Administered PTSD Scale (CAPS; Blake et al., 1995; Weathers, Keane, & Davidson, 2001), which can be obtained from the National Center for PTSD. It consists of 30 items that correspond to the *DSM-IV* criteria for PTSD and can be used to make both current or lifetime diagnoses of PTSD. There is also the Posttraumatic Stress Diagnostic Scale-Interview Version (PDS-I), which was developed by Foa and Tolin (2000). It also has demonstrated validity and reliability, and does not take as long to administer as the CAPS.

Structured interviews, such as the Structured Interview for DSM-IV (SCID), that start with a single gate-keeping item, show lower validity for PTSD and have a lower specificity than the CAPS. For children and adolescents, there is the Clinician Administered PTSD Scale for Children and Adolescents (CAPS-CA), which is also available from the National Center for PTSD. When dissociation is an issue, the Dissociative Disorders Interview Schedule DSM-IV Version (DDIS; Ross et al., 1989) is a clinician-administered interview that assesses for not only an array of traumatic events, but also the *DSM-IV* criteria for major depression, substance use, borderline personality disorder, somatoform disorders, and dissociative disorders. It is available at www.rossinst.com/ddquest.htm.

SELF-REPORT MEASURES

In general, brief scales and self-report measures should not be solely used to determine a diagnosis of PTSD, but should be followed up with a structured interview. Nevertheless, several self-report instruments can be useful in evaluating a patient for lifetime and current PTSD. Foa, Cashman, Jaycox and Perry (1997) have developed the Posttraumatic Stress Diagnostic Scale (PDS), which screens for the presence of PTSD in individuals who have already identified themselves as trauma victims or in general psychiatric outpatients (Sheeran & Zimmerman, 2002). It can also measure symptom severity and functioning in patients already diagnosed with PTSD.

The Short Post-Traumatic Stress Disorder Rating Interview (SPRINT; Connor & Davidson, 2001) is an 8-item self-report instrument that measures on a 5-point scale the primary symptoms of PTSD (arousal, avoidance, numbing, intrusion) as well as functional impairment, stress vulnerability, and somatic malaise. The SPRINT has been shown to have solid psychometric properties and can serve as a reliable and valid measure of PTSD severity and of global improvement. The authors suggest a cut-off score of 14 for this screen. Those screening positive should then be assessed with a structured interview for PTSD.

The Impact of Events Scale-Revised (Weiss & Marmar, 1997) is a 22-item self-report measure that assesses current subjective distress related to any specific life event. It consists of hyperarousal, intrusion, and avoidance subscales that parallel *DSM-IV* PTSD criteria, and has been shown to have good internal consistency and test-retest reliability.

Other self-report measures for PTSD that should be considered for use in adults include the civilian version of the Mississippi Scale for PTSD (Lauterbach, Vrana, King, & King, 1997), the civilian version of the PTSD Checklist (PCL-C; Blanchard, Jones-Alexander, Buckley, & Forneris, 1996; Weathers, Huska, & Keane, 1991), and the Modified PTSD Symptom Scale (Falsetti, Resnick, Resick, & Kilpatrick, 1993).

The Child PTSD Symptom Scale (CPSS) is a 26-item self-report instrument that gauges PTSD diagnostic criteria and symptom severity on a 4-point scale in children and adolescents between the ages of 8 to 18 years (Foa, Johnson, Feeny, & Treadwell, 2001). Scores can be computed for each of the 3 PTSD symptom clusters.

An excellent resource is the “Expert Consensus Guidelines for the Treatment of PTSD: A Guide for Patients and Families” (Foa, Davidson, & Frances, 1999), which is available at www.psychguides.com. On the last page of this guide is a one-page self-report checklist that can be very helpful in the clinical diagnosis of PTSD. This resource guide is also extremely useful as a psychoeducational tool for patients and family members.

Treatment

Treatments for PTSD and trauma-related disorders have advanced significantly over the last several years. The most effective treatments for PTSD include cognitive-behavioral therapy (CBT) with prolonged exposure, eye movement desensitization and reprocessing (EMDR), and pharmacotherapy (Foa et al., 1999; Rothbaum, Astin, & Marsteller, 2005; Van der Kolk et al., 2007), although psychodynamic psychotherapy that includes processing of traumatic material may also be helpful (American Psychiatric Association, 2004; Sherman, 2003). In addition, dialectical behavior therapy (DBT) has been used successfully in borderline personality disorder and other conditions characterized by affective dysregulation, including BN (Marcus & Levine., 2004), impulse control disorders, dissociative disorders (Ross, 2005), and PTSD (Becker & Zayfert, 2001; Bradley & Follingstad, 2003; House, 2006; Robertson, Humphreys, & Ray, 2004; Spont, Sayer, Thuras, Erbes, & Winston, 2003). The principles of treatment for the comorbid ED patient have been detailed elsewhere (Brewerton, 2004).

Clinical investigators (Persons, 2005; Zayfert & Becker, 2007) have described a case formulation approach that can be used to integrate empirically supported treatments for various comorbid conditions, including EDs and PTSD. In a case formulation approach, the clinician uses hypotheses

about the mechanisms that cause and maintain problem behaviors combined with the adoption of empirically validated approaches for each case that includes hypothesis testing and ongoing data collection to evaluate treatment process and progress. I and others have argued elsewhere that it is important to assess the mechanisms that functionally link disorders or problem behaviors together (Brewerton, 2004). An example is the hypothesis that bulimic behaviors, such as vomiting, serve to facilitate numbing and avoidance of trauma-related memories, dreams, feelings, thoughts, and behaviors, as well as to decrease associated hyperarousal. To the extent that this hypothesis is endorsed by the patient and his/her process, this then paves the way for adaptive coping strategies that more effectively deal with the deeper issues without the negative consequences. In this integrated approach, empirical treatments such as CBT for EDs and PTSD can be integrated into a phasic deployment of interventions that can be tailored for any given individual.

CBT is by far the most empirically supported form of psychotherapy for ED's and most forms of trauma-related comorbidity, including mood, anxiety, and substance use disorders. Thus, CBT has virtually universal application in this comorbid group and can serve as the basis upon which other interventions may be added, such as interpersonal psychotherapy, pharmacotherapy, family therapy, or psychodynamic therapy. It becomes a matter of developing the art of mixing and matching aspects of these treatments into an effective intervention that delivers "the right thing at the right time." Although CBT for PTSD includes a number of important components, such as stress inoculation training, record keeping, cognitive therapy, and relapse prevention, the inclusion of prolonged exposure with cognitive reprocessing appears to be essential to the successful outcome of PTSD treatment (Ballenger et al., 2000; Foa & Rothbaum, 2001; Heflin & Deblinger, 1996; Keane, Foa, & Friedman, 2000; Schnicke & Resick, 1993).

EMDR appears to include many, if not all, of these components and easily complements or facilitates the CBT for PTSD (Shapiro, 2001). EMDR has been shown to be as efficacious as CBT with prolonged exposure (Rothbaum et al., 2005) as well as treatment with fluoxetine (Van der Kolk et al., 2007).

Psychopharmacologic interventions are supported by most practice guidelines for the treatment of PTSD and other comorbid disorders associated with the ED's, particularly mood and anxiety disorders (American Psychiatric Association Practice Guidelines, 2001, 2004; Ballenger et al., 2000; Foa et al., 1999). Specifically, selective serotonin reuptake inhibitors (SSRIs), such as fluoxetine and sertraline, have been found in randomized, controlled trials to be efficacious in both PTSD and BN. However, the use of pharmacotherapy without concomitant psychotherapy is generally ineffective in terms of producing complete and lasting abstinence in ED patients. This is particularly true for those with PTSD and other trauma-related comorbidity. A more in-depth discussion of the use of psychopharmacological agents in the traumatized ED patient is found elsewhere (Brewerton, 2004).

CAVEATS

There are a number of potential concerns that arise in the assessment and treatment of the ED-PTSD patient. These depend, in part, on the level of training, skill, and experience of the clinician as well as his/her discipline and orientation. Many therapists who are unexperienced in the treatment of EDs underestimate the need for nutritional rehabilitation and proceed too rapidly into the trauma work. Others fail to teach anxiety reduction skills or stress inoculation sufficiently first; the patient becomes easily overwhelmed with traumatic material and tends to revert back to maladaptive coping strategies. Others really do not know how to do CBT with prolonged exposure and need specialized training and/or supervision or to refer the patient out to someone who specializes in this area. Still others do not continue the exposure long enough for true extinction.

It is easy to inadvertently collude with the avoidance of the patient. Vicarious traumatization can be very real for therapists doing this work and patients' issues may often trigger therapists' issues. The containment of both negative and positive countertransference is essential in this work. Generally, patients will indicate a readiness to begin trauma work when their ED symptoms are under reasonable control, their brains are nourished and able to process information emotionally and cognitively, and they have mastered to some degree anxiety reduction techniques. Sometimes patients do not feel safe enough to disclose significant abuses until well into the therapeutic process, so periodic reevaluation of the trauma history and PTSD can be fruitful.

Delayed PTSD does occur and once nutritional rehabilitation occurs, patients can remember traumatic events in their lives that they had previously forgotten. Sometimes patients do not even realize that they have been abused until the definitions of abuse and neglect are explained to them. Once their cognitive set is altered such that they now perceive past experiences as abusive, delayed PTSD symptoms can then arise. Not infrequently, dissociated memories of abuse may emerge spontaneously once nutritional rehabilitation occurs, and these revelations usually occur outside the therapeutic session. Therapists should contain their rescue fantasies and refrain from using techniques designed to recover memories, such as hypnosis or amyntal interviews, as these are fraught with dangers, such as the induction of false memories. It has been demonstrated that ED patients tend to be highly suggestible (Pettinati, Horne, & Staats, 1985).

In the event that prior traumatic events are reported by a patient, the clinician must understand and observe all reporting laws mandated by their discipline and national, state, and local governments.

Overall, it is hoped that the practice points outlined in this paper will be useful to the clinician in understanding, evaluating and treating more effectively the traumatized ED patient with comorbid PTSD and/or other trauma-related disorders.

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