Complex Trauma in Adolescents and Adults
Effects and Treatment

John Briere, PhD*, Catherine Scott, MD

KEYWORDS
- Complex trauma • Trauma • PTSD • Complex PTSD • Treatment of complex trauma

KEY POINTS
- Exposure to multiple interpersonal traumas over the life span can have significant later psychological effects, both on the likelihood of posttraumatic stress disorder (PTSD) in response to a given stressor and in terms of a wide range of other symptoms and problems.
- Complex trauma can sometimes result in what has been referred to as complex PTSD, developmental trauma disorder, or enduring personality change after catastrophic events, often involving some combination of relational dysfunction, affect dysregulation, identity disturbance, and dysfunctional behavior.
- There are several empirically validated psychological and pharmacologic treatments relevant to complex trauma, most of which target individual symptom clusters.
- Psychological treatments for complex trauma effects tend to focus on processing trauma memories and cognitions and developing affect regulation skills and coping responses.
- Although selective serotonin reuptake inhibitors and related drugs can be helpful for the posttraumatic stress that sometimes follows complex trauma exposure, there are less data to suggest that the other, more personality-level difficulties associated with complex trauma respond well to pharmacologic interventions.

Recent research indicates that the number and variety of interpersonal traumas an individual has experienced over his or her lifespan significantly predicts the extent and composition of his or her subsequent psychological symptoms and disorders. At high levels, this phenomenon is referred to as complex trauma, defined as exposure to...
multiple, often prolonged or extended traumas over time, potentially including events such as rape, physical assault, sex trafficking, torture, and combat and frequently in the context of previous childhood abuse and/or neglect. As described in this article, complex trauma exposure not only increases the likelihood of posttraumatic stress in response to a given event but it also can result in several simultaneously presenting but phenomenologically discrete psychological difficulties, described in the empirical literature as symptom complexity.

Research on the effects of complex trauma has had significant impacts on empirical and clinical models of posttraumatic distress and disorder. Most importantly, it reinforces the notion of multidimensional symptoms arising from multiple traumatic events and challenges traditional assumptions regarding the single-event cause of posttraumatic stress disorder (PTSD).

**RISK OF POSTTRAUMATIC STRESS DISORDER**

PTSD, as defined by the Diagnostic and Statistical Manual of Mental Disorders (Fifth Edition) (DSM-5), consists of 4 clusters or symptom dimensions: re-experiencing of the traumatic event; avoidance of trauma-relevant stimuli; numbing, negative cognitions, and mood; and hyperarousal and hyperreactivity. Historically, DSM-III through DSM-IV linked all the symptoms of PTSD to a single traumatic event, such as an instance of sexual or physical assault or a natural disaster. As a result, by definition, PTSD could not be diagnosed if some of its symptoms, for example, flashbacks or numbing, arose from one trauma and others, for example, hyperarousal or effortful avoidance, were related to one or more other traumatic events.

Despite this narrow trauma requirement, a study of more than 2000 nonclinical individuals indicated that previous exposure to multiple traumatic events was associated with a greater risk of PTSD in response to a current (index) trauma and that multiple previous traumas had a stronger effect than did a single event. Similarly, data from the World Health Organization’s World Mental Health Survey Initiative (combined N = 51,295) found that approximately 20% of people with PTSD, if asked, attributed their disorder to the effects more than a single traumatic event. This study also indicated a risk threshold of 4 traumatic events, at or greater than which PTSD tended to involve greater functional impairment, more chronic symptoms, earlier onset, greater hyperarousal, and higher comorbidity with mood and anxiety disorders. Other studies also have found that previous traumas increase the likelihood of PTSD in response to a later trauma as well as indicate that multiple trauma exposures are the norm in the general population rather than the exception.

These findings suggest that although an index traumatic event may be immediately associated with the development of PTSD, this trauma may best be understood in some cases as the tipping point for the cumulative impacts of prior, more complex traumas. Apropos of this, DSM-5 criterion A for PTSD specifies traumatic “event(s),” in contrast to previous DSM’s requirement of a single traumatic event. This DSM transition from a single-trauma to a potentially multi-trauma criterion highlights the notion that PTSD can arise from complex trauma, perhaps especially when it is accompanied by other symptoms and difficulties.

**RISK OF COMPLEX OUTCOMES**

Because complex trauma typically involves exposure to multiple types of events, it is logical to assume that their combined effects might also be complex. For
example, sexual assaults are often associated with different outcomes than physical assaults; the effects of disaster can differ from those of interpersonal trauma; and childhood maltreatment often has different impacts than adolescent or adult victimization, such that an accumulation of different traumas generally leads to a wider range of symptom types. Further, trauma is, itself, a risk factor for revictimization at later points in time and, thus, even more complex outcomes.

Other variables further complicate this clinical picture. Multiple trauma exposures are frequently associated with reduced affect regulation capacity, premorbid or comorbid anxiety, depressive or personality-level disorders, impulsivity, dissociation, drugs or alcohol abuse, and a history of insecure parent-child attachment. These phenomena not only represent complex posttraumatic outcomes, they can intensify or mediate the effects of trauma exposure. Finally, posttraumatic symptoms may motivate subsequent maladaptive coping responses, such as suicidality related to sustained posttraumatic stress and avoidance activities, such as dissociation and substance abuse in response to trauma-related dysphoria.

Given these findings, it is not surprising that a history of complex trauma exposures is associated with multiple symptoms or symptom clusters experienced simultaneously by the same individual. Although the literature describes an extensive list of these outcomes, clinical researchers have repeatedly identified a more specific group of psychological symptoms and problems, generally involving self-related difficulties, such as affect dysregulation, relational disturbance (including abandonment concerns and interpersonal sensitivity), identity problems, cognitive distortions, somatization, and avoidance responses such as dissociation, substance abuse, and self-injurious behavior. Despite the overlap of many of these symptoms and problems with diagnostic features of borderline personality disorder, their relationship to multiple childhood and adult traumas, and the frequent copresence of posttraumatic stress symptoms, have led them to be characterized as complex PTSD, disorders of extreme stress not otherwise specified, developmental trauma disorder, self-capacity disturbance, and enduring personality change after catastrophic events (EPCACE). Most recently, the proposed International Classification of Diseases, 11th Revision, is slated to replace EPCACE with a diagnosis of complex PTSD. There is controversy, however, regarding whether such disturbance reflects a specific syndrome, as opposed to dimensions of symptoms that vary according to characteristics and developmental timing of the traumas involved.

TREATMENT OF COMPLEX TRAUMA-RELATED DISTURBANCE

Because complex posttraumatic outcomes are, by definition, wide ranging, there are several psychological and psychopharmacological interventions relevant to their treatment. In both psychological and biological domains, these can be divided into single- and multi-target treatments. Most single-target interventions address one aspect of complex trauma outcomes, although they may have additional effects. For example, exposure therapy is targeted at symptoms of PTSD but also impacts trauma-related cognitive distortions; the selective serotonin reuptake inhibitors (SSRIs) have effects not only on PTSD but also on depression and anxiety. Multi-target interventions, on the other hand, often consist of several different components and have been developed explicitly to address a wider range of trauma symptoms.
Psychological Interventions

Treatments for complex posttraumatic outcomes generally consist of (1) cognitive-behavioral therapy (CBT), (2) affect regulation and coping skills training, (3) relational/psychodynamic approaches, and (4) multi-target intervention models. These methodologies are briefly presented later, primarily for clinically referred older adolescents and adults.

Cognitive-behavioral

CBT is described in the trauma literature as the most commonly applied empirically based treatment of PTSD and, to a lesser extent, acute stress disorder (ASD). The most efficacious aspects of CBT for trauma symptoms seem to be therapeutic exposure, involving the activation and habituation and/or extinction of trauma-related memories within the context of a safe therapeutic environment, and cognitive processing, during which negative thoughts and schemas, such as self-blame, helplessness, and overgeneralized danger appraisals, are explored, challenged, and ideally replaced with more accurate information. Also potentially included in this domain is eye movement desensitization and reprocessing, during which the client recalls a traumatic event, focuses on his or her internal responses, and then, typically, tracks the therapist’s finger as it moves across his or her visual field. Each of these methodologies has been shown in outcome studies to reduce symptoms associated with PTSD.

Affect regulation training

A second form of psychological treatment attends less to the direct processing of traumatic memories and cognitions and more to the development of affect tolerance and regulation as well as emotional coping skills. This distinction is often important in the treatment of complex trauma effects because affect dysregulation is associated with affective instability, difficulties in tolerating and processing potentially overwhelming traumatic memories, and the use of maladaptive coping strategies, such as substance abuse, excessive dissociation, self-injury, dysfunctional sexual behavior, and binge-purge eating. Empirically based interventions in this area teach several skills, including emotion identification, increased self-awareness, relaxation, mindfulness, de-escalation of catastrophic cognitions, and the development of coping strategies to deal with triggered trauma-related thoughts and feelings.

Psychodynamic

A third class of interventions in complex trauma effects includes those calling on psychodynamic and relational principles and therapies. Although less studied in the empirical literature, a limited number of studies suggest that relational/dynamic treatments can be helpful in the treatment of the self-related aspects of complex trauma, including interpersonal dysfunction, attachment-related problems, and identity disturbance. It is likely that, among other components, these treatments call on the most powerful common factors identified in psychotherapy outcome research: a positive therapeutic relationship, empathy, warmth, attunement, and positive regard.

Multi-target therapies

Although the 3 approaches described here have demonstrated efficacy for trauma-related symptoms and problems, the breadth and range of complex posttraumatic symptoms often require more than one interventional modality. For example, although CBT might be helpful resolving a client’s trauma-related flashbacks and hyperarousal, he or she might additionally require affect regulation interventions to address his or her
impulsive or self-injurious behavior, both of which might be most helpful in the context of a caring and attuned therapeutic relationship.

For this reason, there are currently several empirically based, multi-target interventions available for the treatment of complex trauma effects. Among these are dialectical behavior therapy (DBT) and skill training in affect regulation (STAIR), along with several programs developed specifically for adolescents, including Attachment, Self-Regulation, and Competency; Integrative Treatment of Complex Trauma for Adolescents; and Structured Psychotherapy for Adolescents Responding to Chronic Stress. Two of the best known of these approaches for adults, DBT and STAIR, have especially encouraging treatment outcome data for the treatment of complex trauma symptoms, although DBT originally identified borderline personality disorder (BPD) as its focus. Almost all these hybrid interventions stress some combination of the following:

- A positive therapeutic relationship, characterized by caring, attunement, compassion, and boundary awareness
- When appropriate, affect regulation training before major emotional processing of trauma is initiated
- Titrated therapeutic exposure, in which the client is only asked to recall and process traumatic memories that do not exceed his or her affect regulation capacity and, thus, do not overwhelm or retraumatize
- Cognitive and relational processing of negative attachment and relational schema
- Strategies for the management of posttraumatic triggers and activated emotional states

**Pharmacotherapeutic Interventions**

There is a dearth of literature on the pharmacotherapy of complex posttraumatic stress. The multidimensional nature of complex trauma presentations makes outcome research into this area particularly challenging: comorbidities, such as medical problems, ongoing domestic violence and other maltreatment, substance use, suicidal ideation, and dissociation, are typically excluded from treatment outcome studies. MEDLINE searches for pharmacotherapy of complex trauma, disorders of extreme stress not otherwise specified, self-capacities disturbance, and affect regulation/affect tolerance yield virtually no results. Thus, treatment of complex trauma presentations must be adapted from the literature on PTSD, borderline personality disorder, and dissociation and most often involves targeting the various symptom clusters rather than specific diagnostic categories.

**Pharmacotherapy of Posttraumatic Stress Disorder**

It must be noted that pharmacotherapy for PTSD is typically not curative and that generally the amount of symptom reduction obtained with psychotherapy is larger than that associated with pharmacology. On the other hand, several medications have been found to be useful in the treatment of PTSD and other potential complex trauma effects. Because there is less research available on the biological treatment of trauma symptoms in adolescents, this review is limited to pharmacotherapy with adults.

**Antidepressants**

The SSRIs are generally considered first-line pharmacotherapy for PTSD. At this time, the only medications approved by the Food and Drug Administration for the treatment of PTSD are SSRIs: sertraline and paroxetine. Randomized placebo-controlled trials (RCTs) of SSRIs including sertraline, paroxetine, and fluoxetine.
have demonstrated efficacy across all 3 DSM-IV PTSD symptom clusters (re-experiencing, hyperarousal, and avoidance) and are now widely prescribed for posttraumatic stress. As SSRIs are also the first-line treatment of other anxiety and depressive disorders, SSRIs may be used to address this broader spectrum of comorbidity in complex trauma.

Other antidepressants also have been investigated, with mixed results. Venlafaxine\textsuperscript{50} and mirtazapine\textsuperscript{51} seem promising, whereas bupropion shows less potential efficacy.\textsuperscript{52} Monoamine oxidase inhibitors and tricyclic antidepressants seem to be similarly equivocal\textsuperscript{53,54}; given their high number of side effects, as well as lethality in overdose, these medications are not currently recommended for PTSD.

**Benzodiazepines**

Benzodiazepines are generally contraindicated for traumatized individuals, except when they are necessary for downregulation of severe acute anxiety or panic.\textsuperscript{55} Research with benzodiazepines has overwhelmingly indicated that they are specifically unhelpful in ameliorating the symptoms of PTSD\textsuperscript{56} and may in fact increase the risk for later PTSD.\textsuperscript{57,58} In complex trauma presentations, particular caution is warranted when prescribing benzodiazepines, given their tolerance effects and addictive potential.\textsuperscript{33}

**Mood stabilizers**

Data on mood stabilizers in PTSD are sparse; most studies involve small sample sizes, are not randomized, and results are equivocal. Researchers have investigated lamotrigine,\textsuperscript{59} divalproex sodium,\textsuperscript{60} carbamazepine,\textsuperscript{61} and tiagabine.\textsuperscript{62} Mood stabilizers are not considered a primary treatment of PTSD.

**Adrenergic agents**

Both alpha- and beta-adrenergic blocking agents have been investigated in the treatment of PTSD. Although some open trials indicate promise,\textsuperscript{63,64} data from larger studies suggest that beta-blockers are not effective in either preventing PTSD or ameliorating symptoms.\textsuperscript{65,66} However, several open trials of clonidine\textsuperscript{67,68} and RCTs of prazosin\textsuperscript{69,70} indicate that alpha-blockade is useful for improving sleep and reducing nightmares and trauma-related dream content in PTSD.

**Antipsychotics**

There has been much interest in antipsychotics for PTSD; despite the limited evidence of effectiveness, they are used with some frequency in clinical practice. Of the second-generation antipsychotics, risperidone and olanzapine have been evaluated in RCTs. Initial studies of risperidone were promising\textsuperscript{71,72}; however, in a recent 6-month multicenter RCT with more than 300 subjects, risperidone was not associated with a reduction in symptoms of anxiety, depression, or PTSD.\textsuperscript{73} Similarly, although an initial RCT of olanzapine as an adjunctive treatment indicated moderate response in symptoms,\textsuperscript{74} a second found no benefit over placebo.\textsuperscript{75} The single RCT of olanzapine monotherapy\textsuperscript{76} did show a robust response in 70% of the treated individuals but has not been replicated.

The aforementioned results are interpreted variously, with some reviewers suggesting that antipsychotics show promise for the treatment of PTSD,\textsuperscript{77} whereas others conclude that there is not a role for antipsychotics as a first-line treatment.\textsuperscript{28} According to the American Psychiatric Association’s (APA) guidelines,\textsuperscript{55} antipsychotics should be reserved for individuals with comorbid psychosis or overwhelming agitation and aggression.
Pharmacotherapy of Dissociation

The literature on pharmacotherapy of dissociative symptoms is extremely sparse. Symptoms such as derealization, depersonalization, and time loss are generally considered to be nonresponsive to medications. Although this is largely correct, there are some limited data on pharmacotherapy for dissociative symptoms. Several open trials78 and one RCT79 have suggested that naltrexone may help to reduce dissociative symptoms and posttraumatic flashbacks in borderline patients. Others have described its effectiveness in reducing self-injurious behavior in dissociative identity disorder.80

Initial open trials suggested that SSRIs might be effective for treating dissociation81: however, an RCT of fluoxetine did not support this practice.82 Similarly, although open trials suggested the antiepileptic lamotrigine might be helpful for dissociative symptoms,83 an RCT84 did not indicate efficacy. In the lone study of an antipsychotic in dissociation, aripiprazole was found to be helpful in 3 cases of depersonalization disorder.85

Pharmacotherapy for Self-capacity Disturbance

There is virtually no literature on pharmacologic treatment of those complex posttraumatic outcomes characterized earlier as self-capacity disturbance. The only data available in the larger literature involves the pharmacotherapy of BPD, which also involves altered self-capacities. BPD is one of the most difficult psychiatric conditions to treat, and almost every medication in the psychopharmacotherapy armamentarium has been investigated.

Guidelines for the treatment of BPD vary: the APA recommends mood stabilizers and antipsychotics to treat aggression and transient paranoid ideation,86 whereas the National Institute for Clinical Excellence recommends that pharmacotherapy of specific borderline symptoms, in the absence of comorbidities, be avoided.87 Two extensive reviews of pharmacotherapy for BPD indicate, respectively, the following: “Notably, no evidence was found for several borderline personality disorder symptoms – avoidance of abandonment, chronic feelings of emptiness, identity disturbance and dissociation”88 and “In particular, no drugs were found efficacious to treat core domains of BPD.”89

Despite the aforementioned information, there are a handful of RCTs indicating that there might be a role for medications in the treatment of 2 domains relevant to complex trauma: rejection sensitivity and interpersonal relatedness. The mood stabilizer divalproex sodium was found in 2 studies to be helpful for social functioning in BPD90 and for interpersonal sensitivity,91 respectively. Similarly, the antiepileptic topiramate decreased levels of both somatization and interpersonal sensitivity92 and the antipsychotic olanzapine was superior to placebo in improving measures of interpersonal sensitivity.93

SUMMARY

Exposure to complex trauma is both relatively common and potentially associated with a range of psychological outcomes, including a decreased threshold for PTSD and a cluster of symptoms especially characterized by identity disturbance, affect dysregulation, relational difficulties, and dysfunctional behaviors. Empirical studies indicate that both psychological and pharmacologic interventions can be helpful, although psychotherapy seems to be markedly more effective for self-related symptoms.
**REFERENCES**


**CLINICAL VIGNETTE: YOUNG WOMAN WITH COMPLEX POSTTRAUMATIC SYMPTOMS**

M.K. is a 24-year-old single Caucasian woman brought to a university-based emergency department (ED) by police following an overdose with twenty 0.5-mg tablets of lorazepam (Ativan). ED records indicate 4 previous ED admissions for suicidal behavior, generally precipitated by relational strife with romantic partners. She was hospitalized following 2 of these incidents and in both cases was discharged after 72 hours. Discharge diagnoses were, variously, borderline personality disorder, posttraumatic stress disorder, mood disorder not otherwise specified, and substance use disorder. On interview, M.K. reports a childhood history of sexual abuse by her stepfather and oldest stepbrother, from 7 to 16 years of age, and psychological neglect combined with an episode of physical abuse by her mother. She describes herself as always in trouble from her early teens until the present, reporting chronic methamphetamine abuse, truancy, running away from home, physical fights with other girls, and relatively indiscriminant sexual behavior since 16 years of age, soon after being gang-raped by her ex-boyfriend and 2 of his friends. Her last methamphetamine use was reportedly 1 week before her ED admission. On mental status examination, she appeared alert and oriented but somewhat dissociated, with depressed mood and constricted numb affect. She reported a history of chronic self-cutting, bulimia, hypervigilance around men, and flashbacks of the gang rape and an especially violent sexual assault by her stepbrother.

M.K. was referred to a trauma-specialized female psychologist and a psychiatrist who started her on sertraline hydrochloride (Zoloft), with limited supplies of medication because of her recent history of suicide attempts. After a relatively rocky beginning, characterized by rejection sensitivity and distrust of her therapist, she seems to be gaining from the affect regulation training component of therapy, which has reduced her self-injurious and dysfunctional behaviors, and has experienced some lifting of her depression. After 3 months of therapy, however, she is still unable to engage in significant therapeutic exposure or cognitive processing of her trauma history.


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