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Dissociative aspects of posttraumatic stress disorder: Epidemiology, clinical manifestations, assessment, and diagnosis

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INTRODUCTION

Some patients with posttraumatic stress disorder (PTSD) experience significant dissociative symptoms. This is often the case with patients who have experienced chronic traumatization including sexual, physical, and psychological abuse as well as severe neglect during childhood. This observation and subsequent clinical and neurophysiological research has led to a new dissociative subtype of PTSD.

The dissociative subtype of PTSD, consists of meeting the full diagnostic criteria for PTSD and, in addition, having depersonalization and/or derealization [1]. Patients with the dissociative subtype often have a history of PTSD earlier in life, more trauma exposure, and higher rates of suicidality [2-10]. "Dissociative PTSD" is an older term, used to describe PTSD with substantial dissociative symptoms.

The epidemiology, pathogenesis, clinical manifestations, and diagnosis of dissociative PTSD are reviewed here. The epidemiology, pathogenesis, clinical manifestations, diagnosis, and treatment of acute stress disorder and PTSD are discussed elsewhere.

• (See "Posttraumatic stress disorder in adults: Epidemiology, pathophysiology, clinical features, assessment, and diagnosis".)

- (See "Posttraumatic stress disorder in adults: Treatment overview".)
- (See "Posttraumatic stress disorder in adults: Psychotherapy and psychosocial interventions".)
- (See "Acute stress disorder in adults: Epidemiology, clinical features, assessment, and diagnosis".)

CONCEPTS AND DEFINITIONS

Posttraumatic stress disorder — Posttraumatic stress disorder (PTSD) has been described as "the complex somatic, cognitive, affective, and behavioral effects of psychological trauma" [2]. PTSD is characterized by intrusive thoughts, nightmares, and flashbacks of past traumatic events, avoidance of reminders of trauma, hypervigilance, and sleep disturbance, all of which lead to considerable social, occupational, and interpersonal dysfunction.

Dissociation — Dissociation is a disruption of the usually integrated functions of consciousness, memory, identity, or awareness of body, self, or environment. When one or more of these functions are disrupted, characteristic symptoms can occur:

- Consciousness Impaired consciousness is characterized by decreased responsiveness to external stimuli.
- Memory Memory impairment, referred to as dissociative amnesia, affects the ability to recall autobiographical information, which is usually of a stressful nature.
- Identity Dissociation can cause confusion about or discontinuities in one's identity.
 - Awareness of body, self, or environment. Depersonalization and derealization often occur together.
 - Depersonalization Detachment or estrangement from one's self. The symptom of depersonalization can be found in a range of psychiatric disorders and can be caused by substance use disorder [11,12].
 - Derealization The sense that the external world is strange or unreal.

Dissociative subtype of PTSD — Several lines of conceptualization and evidence support a distinct subtype of PTSD characterized by dissociative symptoms (ie, depersonalization, derealization). Evidence for this subtype comes from studies of adults and children, including functional neuroimaging, as well as of different types of trauma, including childhood physical and sexual abuse [13,14], and trauma associated with military combat. (See "Posttraumatic

stress disorder in adults: Epidemiology, pathophysiology, clinical features, assessment, and diagnosis" and "Physical child abuse: Recognition" and "Management and sequelae of sexual abuse in children and adolescents".)

As examples:

- In a field study including 520 subjects with PTSD (age <14 years; 395 seeking mental health treatment; 125 not seeking treatment) finding suggest that severe, chronic dissociative symptoms are a distinct response to early onset, interpersonal trauma [2]. Subjects who had experienced early onset trauma had a higher rate of dissociative symptoms than subjects who had experienced later-onset interpersonal abuse or natural disasters. Individuals with PTSD and dissociative symptoms continued to suffer from them after they no longer met the core criteria for PTSD.
- In a study, 155 subjects with PTSD were examined for the degree of dissociative symptomatology among two different groups: those who also met criteria for complex PTSD (otherwise known as "disorders of extreme stress not otherwise specified [DESNOS]") and those who did not [15]. Subjects who met criteria for both PTSD and DESNOS exhibited chronic symptoms of dissociation as evidenced by higher scores on the Dissociative Experiences Scale than participants who were suffering from PTSD alone.

The criteria for DESNOS were developed to describe the complex symptomatology often observed in response to prolonged traumatization (Type II trauma), occurring during crucial developmental periods [6]. They include symptoms of dissociation, emotion dysregulation, somatization, altered relationships/attachments, and alterations in systems of meaning (eg, believing there is no purpose in life; losing faith in others) [16]. The conceptualization of DESNOS and complex PTSD are similar to the dissociative subtype of PTSD, although they include a broader range of symptoms than the dissociative subtype of PTSD and their neurobiological basis has not yet been well studied.

• Studies of individuals who experienced combat-related trauma also support a dissociative subtype of PTSD [4,5,7,17,18]. For example, a mixed sample of 1566 subjects, including psychiatric patients with various diagnoses and nonpatient, normal participants were assessed to determine whether scores on the Dissociative Experiences Scale were associated with having specific psychiatric disorders [7]. The 166 subjects who had combat-related PTSD were found to have high mean dissociation scores relative to the rest of the sample.

Trauma subtypes — Two subtypes have been proposed to categorize traumatic experiences among children [6].

- Type I trauma refers to traumatic conditions that result predominantly from single traumatic experiences and includes primarily full and vivid memories, cognitive preoccupation, and misperceptions.
- Type II trauma is associated with prolonged exposure to extreme stressors and includes symptoms of dissociation, denial, numbing, and rage. This type of trauma is often associated with the development of the dissociative subtype of PTSD.

EPIDEMIOLOGY

Posttraumatic stress disorder (PTSD) is a common disorder, with a lifetime prevalence ranging from 6.8 to 12.3 percent in the United States adult population [19-21] and one-year prevalence rates of 3.5 to 6 percent [19,22,23]. Approximately 15 to 48 percent of individuals with PTSD have been found to have the dissociative subtype of PTSD, across a range of samples with diverse histories of trauma (eg, childhood trauma, physical trauma, sexual trauma, mixed trauma) [9,24-27]. A meta-analysis estimated the prevalence of the dissociative subtype of PTSD to be 48 percent across samples that used the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) PTSD criteria [27]. (See "Posttraumatic stress disorder in adults: Epidemiology, pathophysiology, clinical features, assessment, and diagnosis".)

Studies suggest that the dissociative subtype of PTSD may also be present in children and adolescents. As an example, in a sample of 297 children age three to six who had been exposed to trauma, 21 percent of the total sample were classified as having PTSD with dissociation, as assessed using a parent, or caregiver, report measure of trauma-related symptoms [28]. Experiences of childhood sexual abuse and female gender were associated with a higher likelihood of being in the PTSD with dissociation group.

Types of trauma associated with the dissociative subtype of PTSD include childhood physical and sexual abuse. A meta-analysis of 65 studies in 22 countries estimated a prevalence of childhood sexual abuse of 20 percent for women and 8 percent for men [29]. The prevalence of the dissociative subtype of PTSD among individuals experiencing physical or sexual abuse is not known.

PATHOGENESIS

The pathogenesis of posttraumatic stress disorder (PTSD) is not known. Data from psychophysiological and neuroimaging studies of patients with chronic PTSD, when responding

to cues related to traumatic events, support the classification of two subtypes of PTSD, dissociative and hyperaroused PTSD to be associated with distinct neural and cardiovascular responses when recalling traumatic memories [30-37].

Emotional overmodulation

Excessive corticolimbic inhibition — Dissociative PTSD patients can be conceptualized as experiencing emotional overmodulation in response to exposure to traumatic memories. This can include subjective disengagement from the emotional content of the traumatic memory through depersonalization, derealization, and emotional numbness mediated by midline prefrontal inhibition of the limbic regions. Findings in support of this conceptualization include:

- In an observational neuroimaging study, regional blood flow during recollection of traumatic and neutral events was measured in individuals with and without PTSD. Individuals in the dissociative group exhibited abnormally high response, as compared with the re-experiencing hyperarousal group, in brain regions involved in arousal modulation and emotional regulation, including the rostral anterior cingulate cortex and the medial prefrontal cortex [38].
- Individuals with dissociative PTSD, compared with those with nondissociative PTSD, have been found to have increased grey matter volume in the right precentral gyrus and in the right middle frontal gyrus [39]. The right precentral gyrus has been implicated in fear-related motor neurocircuitry [40] (circuitry thought to be involved in the dissociative shut-down response [41,42]) The right middle frontal gyrus is involved in downregulation of emotional responses [43].
- Consistent with the corticolimbic disconnection model of depersonalization [44], the findings of increased medial prefrontal cortex response during states of dissociation in PTSD may reflect medial prefrontal inhibition of the amygdala and of other limbic activity [44].

In a large, prospective longitudinal biomarker study, derealization appeared to be associated with increased ventromedial prefrontal cortex activation during an emotion reactivity task [45]. This may suggest medial prefrontal inhibition of limbic structures associated with emotional detachment. Other findings include increased connectivity of the amygdala to prefrontal emotion regulation regions and regions involved with consciousness and awareness in individuals with dissociative PTSD as compared with nondissociative PTSD [46]. Additionally, individuals with dissociative PTSD have demonstrated greater connectivity of the basolateral amygdala with the insula as compared with individuals with nondissociative PTSD. This may

reduce activity of the insula leading to reduced arousal, alertness, interoceptive awareness, and emotional processing [47]. Other data support these findings [48-50].

HPA axis reactivity — Findings of emotional overmodulation may be mirrored in the hypothalamic-pituitary-adrenal (HPA) axis. In a sample of 41 women with PTSD and healthy controls, HPA-axis nonresponders showed higher levels of trauma-related dissociative symptoms as compared with HPA-axis responders, suggesting blunted emotional response among highly dissociative individuals with PTSD [51].

The triple network model in PTSD — Intrinsic connectivity networks, including the central executive network (CEN), default mode network and the salience network are temporally and functionally connected and have been implicated in the dissociative subtype of PTSD and in psychiatric disorders in general [52-58]. Research findings indicate that hyperconnectivity within the CEN may contribute to increased top-down inhibition of limbic regions associated with the dissociative subtype of PTSD [55,56]. Additionally, trauma related dissociative symptoms, as distinct from PTSD and childhood trauma, can be estimated on the basis of network connectivity [58].

Cardiovascular response — In a series of studies, approximately 70 percent of patients reported re-experiencing their traumatic event in response to traumatic script-driven imagery; in doing so, they experienced psychophysiological hyperarousal [32-34,59]. In contrast, the remaining 30 percent of PTSD subjects reported depersonalization, derealization, and a feeling of emotional detachment; they evidenced no significant increase in heart rate [33,34].

CLINICAL MANIFESTATIONS

Particularly prominent among patients with dissociative posttraumatic stress disorder (PTSD) are the dissociative symptoms, affective and behavioral dysregulation, and co-occurring psychiatric disorders and general medical illnesses [11,60]. A table summarizes differences between PTSD and the dissociative subtype of PTSD (table 1).

PTSD symptoms — Patients with PTSD experience marked cognitive, affective, and behavioral responses to stimuli, leading to flashbacks, severe anxiety, and fleeing or combative behavior. These individuals compensate for such intense arousal by attempting to avoid experiences that may begin to elicit symptoms of emotional numbing, diminished interest and, in the extreme, detachment from others. (See "Posttraumatic stress disorder in adults: Epidemiology, pathophysiology, clinical features, assessment, and diagnosis", section on 'Clinical manifestations'.)

Dissociative symptoms — Dissociative symptoms seen in PTSD include decreased responsiveness to external stimuli, memory impairment (ie, dissociative amnesia), and disturbances of identity and awareness (eg, depersonalization and derealization). (See 'Concepts and definitions' above.)

- **Depersonalization** Patients who experience depersonalization describe feeling emotionally and/or physically numb, or as if watching themselves from a distance or as in a movie [12,61]. Some may experience a sense of being so unreal that they feel dead. While some patients prefer to feel numb, others find this frightening. Patients describe derealization as the world appearing "unreal," "surreal," "far away," or "foggy." In addition, familiar people or places may seem unfamiliar [61].
- **Cognitive impairment** Many patients with PTSD and significant dissociative symptoms report impairments in verbal [62], visual [63], and episodic memory [64], attention [65], executive functioning, and occupational and interpersonal function [12,61]. Dissociative symptoms have been implicated in impairments in social cognition, or the ability to use, store, and encode information about others through social interactions [66].
- **Hypnotizability** Dissociative individuals are likely to score high on measures of hypnotizability [17]. Phenomenologically, they are able to spontaneously enter self-hypnotic states without formally inducing trance. As a result, patients with dissociative alterations in consciousness may present with or report that they have episodes of blunted affect, robotic or no movement, and/or spells of "trancing" during which they stare or close their eyes and become unresponsive. Patients describe these episodes of dissociation as "spacing out," "trancing," or "tuning out."
- Amnesia Patients with dissociative amnesia are unable to recall important autobiographical information, usually of a traumatic or stressful nature. Dissociative amnesia differs from ordinary forgetfulness in that it is typically more extensive than normal forgetting and what is forgotten is related to stressful or traumatic events [1]. This memory impairment appears to be due to a reversible psychological inhibition, rather than organic factors. The dissociated memories may intrude in the form of nightmares, flashbacks, avoidance behavior or conversion symptoms [11]. Detachment from emotional and physical pain during trauma can result in alterations in memory encoding and storage. In turn, this leads to fragmentation and compartmentalization of memory and impairments in retrieving memory [11,67,68]. The ability to learn new information remains intact, as does general cognitive functioning. Dissociative amnesia has been documented for a variety of traumatic experiences including combat, the Nazi and Cambodian

holocausts, and sexual and physical abuse [69]. (See "Dissociative amnesia: Epidemiology, pathogenesis, clinical manifestations, course, and diagnosis".)

Individuals with dissociative alterations in memory may report they have poor recall for much of their childhood if they experienced chronic Type II trauma in childhood [11]. As an example, they may not be able to recall most childhood school teachers and/or how holidays and birthdays were celebrated within their family. Patients with dissociative amnesia for adulthood traumas may recall fragmented elements of the traumatic event but be unable to recall a coherent narrative of the traumatic event.

Affective and behavioral dysregulation — Affective dysregulation manifests as an absence of emotionality such as numbness alternating with emotions the individual experiences as being overwhelming including intense shame, self-hatred, terror, and anger.

Affective dysregulation underlies behavioral dysregulation in patients with dissociative PTSD. Because they vacillate between feeling too much and too little, many of these individuals attempt to manage their emotions with alcohol, illicit drugs, or overuse of prescribed drugs, or behaviors that alter their emotional state such as self-injurious behaviors (eg, cutting), binge eating, and reckless driving. They are at risk for suicide attempts and completed suicide [70] as well as aggressive behavior. Interpersonal problems are common including avoidance of relationships and violent, abusive relationships. Somatization and somatoform disorders include high-risk behaviors, smoking, early and multiple pregnancies, sexually transmitted diseases, and morbid obesity [71,72]. As an example, a 2018 Veterans Health Administration study reported higher levels of reckless or self-destructive behaviors among patients with the dissociative subtype of PTSD compared with those without the dissociative subtype [73].

Among trauma-exposed children, dissociative symptoms and emotion regulation difficulties have been found to be associated with behavioral problems. As an example, in a study involving 309 children (age 6 to 12) with a history of sexual abuse, both emotion regulation and dissociation were found to mediate the relation between cumulative childhood trauma and both internalizing (eg, anxiety, depression, social withdrawal) and externalizing (eg, antisocial behaviors, aggression) behavior problems [74].

Suicidality — We assess all patients with dissociative subtype of PTSD for suicidality (See "Suicidal ideation and behavior in adults".)

- Approximately 20 percent of patients with PTSD attempt suicide [75-77].
- A high correlation has been found between having a history of sexual abuse and self-mutilation, parasuicidal behavior, and suicide attempts [78].

• Patients with dissociative disorders have higher rates of multiple suicide attempts than patients with classic PTSD, borderline personality disorder, or alcohol use disorder [70].

Co-occurring conditions — The presence of comorbid psychiatric disorders and/or medical illnesses is characteristic of dissociative PTSD [10]. Dissociative symptoms may mediate the relation between symptoms of PTSD and functional impairment. This suggests that those with the dissociative subtype of PTSD may experience greater functional impairment than those with PTSD only [79].

Mood, anxiety, and eating disorders

- PTSD confers a six-fold increase in the risk of depression [80]. (See "Unipolar depression in adults: Assessment and diagnosis".)
- Patients with a history of prolonged traumatization have an increased likelihood of dysthymia [80]. Childhood abuse is a risk factor for developing depression in all age groups. Patients with a history of physical and sexual abuse may present with reverse neurovegetative symptoms of hypersomnia, increased appetite, and weight gain [81].
- The risk of eating disorders, especially bulimia nervosa, is increased among individuals with PTSD [82]. (See "Eating disorders: Overview of epidemiology, clinical features, and diagnosis".)
- Dysregulation of emotional states is common among individuals with PTSD associated with childhood abuse or combat trauma; the highs and lows typically shift within hours.
 Mood swings may be spontaneous or precipitated by interpersonal conflict or reminders of traumatic events.
- Patients with PTSD have a fourfold increased risk of panic disorder with agoraphobia. Reminders of trauma can frequently trigger anxiety and panic attacks [20,21]. (See "Panic disorder in adults: Epidemiology, clinical manifestations, and diagnosis".)

Borderline personality disorder — Although data from formal epidemiologic are lacking, some patients with borderline personality disorder additionally suffer from dissociative PTSD. Some but not all patients with dissociative PTSD meet criteria for borderline personality disorder.

During periods of acute destabilization, many individuals with dissociative PTSD may temporarily appear to have borderline personality disorder. This may be due to an increase in symptoms of emotion dysregulation and related interpersonal dysfunction. Careful assessment of patients with dissociative PTSD over time can establish their true baseline functioning and

symptomatology to inform a potential diagnosis of borderline personality disorder. (See "Borderline personality disorder: Epidemiology, pathogenesis, clinical features, course, assessment, and diagnosis".)

Substance use disorder — Substance use disorders are highly comorbid with PTSD [76,77,83,84].

The National Comorbidity Study of a Untied States nationally representative sample of individuals age 15 to 54 found that 26 percent of women and 10 percent of men with Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV) alcohol dependence met diagnostic criteria for PTSD [20,21]. A diagnosis of PTSD was associated with a threefold increase in the risk of substance use disorder. (See "Risky drinking and alcohol use disorder: Epidemiology, clinical features, adverse consequences, screening, and assessment".)

Physical illnesses — Comorbid health problems are believed to occur in patients with dissociative PTSD at higher rates than in the general population. These include chronic fatigue syndrome, gastroesophageal reflux disease, irritable bowel syndrome, headaches, heart disease, liver disease, pulmonary diseases, and autoimmune disorders [71,72].

Course — Although often responsive to treatment, PTSD is a chronic disorder with a median time to recovery of between three and five years. Those with the dissociative subtype of PTSD associated with a history of more severe, chronic trauma, may take longer to recover [75]. The disorder is associated with significant functional and psychosocial disability, and increased use of health care resources [85].

In the largest prospective longitudinal study to date, persistent derealization was demonstrated to be a marker for worse psychiatric outcome, thus underscoring the need to assess and treat dissociation to maximize outcome [45]. Other data support greater overall symptom severity characterizing the dissociative subtype of PTSD [86].

DIAGNOSTIC ASSESSMENT

Screening — We use the Dissociative Experiences Scale – Revised (DES-Revised) to screen for dissociation (table 2) [87-90]. The DES-Revised has 28 items assessing amnesia, absorption, identity alteration, and depersonalization/derealization.

Mean scores from 20 to 30 on a 100-point scale have been reported in samples of subjects with dissociative posttraumatic stress disorder (PTSD) [87-89]. An average DES-Revised score of 20 or higher should prompt further assessment of dissociative symptoms [90].

Assessment — Diagnosing the dissociative subtype of PTSD can be difficult. Patients rarely volunteer information about dissociative symptoms or trauma exposure. Few clinicians have been trained to assess patients for traumatization and dissociation.

As part of our clinical assessment we address the following:

- Has the patient been exposed to early and/or repetitive trauma?
- Does the patient experience PTSD symptoms, including dissociation?
- Does the patient meet diagnostic criteria for PTSD?
- Does the patient have concurrent symptoms or disorders, including depression, substance use disorder, somatoform symptoms, eating disorders, and self-destructive and impulsive behaviors [11,60]. (See 'Co-occurring conditions' above.)

While self-report assessment instruments are provided, they should be interpreted in the clinical context and are not a substitute for clinical judgment making a diagnosis.

Trauma history — Although repetitive exposure to any type of violence and abuse in early childhood can contribute to the development of dissociative PTSD, chronic early sexual abuse is particularly common. The following screening questions can be useful for briefly assessing trauma exposure:

- How was discipline handled in your family?
- Did you witness violence between family members or others in childhood? Adolescence?
 Adulthood?
- Have you ever been hit, punched, shot at, kicked or otherwise physically harmed or threatened with physical harm in adulthood? In childhood or as a teenager?
- In childhood or adolescence, did anyone in your family say hurtful or insulting things to you or treat you in a way that made you feel they hated you?
- Did you ever experience unwanted sexual contact in childhood? Adolescence? Adulthood?
- Have you experienced any other type of event that was so upsetting that you felt terrified, horrified or helpless? Examples include a natural disaster, serious motor vehicle or other types of accidents, combat, or violent crime.

We use the Childhood Trauma Questionnaire (CTQ), a patient self-report instrument, for assessing childhood trauma exposure. The CTQ is a 28-item self-report inventory of childhood

maltreatment. It can be completed by adolescents (12 and older) as well as adults, typically requiring five minutes [91].

We express empathy and determine if the trauma is contributing to current psychiatric symptoms (eg, depression, dissociation, other PTSD symptoms) and/or functional impairment. As an example in an individual who reports a history of trauma we might respond with: "That sounds quite difficult. Thank you for telling me. Do you think that experience may be affecting you in negative ways nowadays?"

We find it comforting to the patient to explain to them that others have suffered similar experiences.

Although many patients with the dissociative subtype of PTSD will meet full diagnostic criteria for the disorder, some will have only subthreshold levels of PTSD.

Diagnosis — The diagnosis of the dissociative subtype of PTSD can be made if, in addition to full symptoms of PTSD, the individual has depersonalization (feeling detached from or as though one were an outside observer of one's own mental processes or body), and/or derealization (the world seeming unreal or dreamlike). (See "Posttraumatic stress disorder in adults: Epidemiology, pathophysiology, clinical features, assessment, and diagnosis", section on 'Diagnostic criteria'.)

Such individuals typically have:

- A history of multiple interpersonal traumatizations typically beginning in early childhood. However, prolonged interpersonal adult traumas such as occur in domestic violence and combat without a history of childhood trauma have been associated with some cases of the dissociative subtype of PTSD.
- Frequent (eg, weekly) dissociative symptoms that do not occur solely under stress or during panic attacks and that cause distress or dysfunction (See 'Concepts and definitions' above.)
- Higher levels of suicidality compared to other patients with PTSD.
- Affective and behavioral dysregulation that typically include, yet extend beyond, the heightened emotions and physiological arousal seen in PTSD to include experiences of numbness and hypo-emotionality. (See 'Affective and behavioral dysregulation' above.)
- Patients with PTSD, regardless of whether or not they suffer from significant dissociative symptoms, have an increased rate of various comorbid disorders which require screening.

(See 'Co-occurring conditions' above.)

The diagnosis of PTSD is discussed separately. Diagnostic criteria for PTSD were revised to include a subtype of PTSD, "with dissociative symptoms," to be used when PTSD symptoms are accompanied by persistent or recurrent symptoms of depersonalization or derealization [92]. (See "Posttraumatic stress disorder in adults: Epidemiology, pathophysiology, clinical features, assessment, and diagnosis", section on 'Subtypes'.)

Differential diagnosis — Dissociative PTSD can be differentiated from other mental disorders (table 3):

- Bipolar disorder Although individuals with bipolar disorder have shifting mood states, they typically do not shift as rapidly as those with dissociative PTSD. Furthermore, bipolar patients do not typically present with the complex trauma histories, recurrent dissociation, and multiple comorbid psychological and medical illnesses found in the dissociative subtype [93].
- Schizophrenia Individuals with dissociative PTSD differ from individuals with schizophrenia by the former having intact reality testing, higher levels of severe, chronic childhood trauma, and higher levels of dissociation [7]. Dissociative individuals are also more interested in others and able to relate to them better than are those with schizophrenia [93].
- Borderline personality disorder Several factors distinguish dissociative PTSD from borderline personality disorder.
 - Many individuals with dissociative PTSD can form a collaborative working alliance more easily with treatment providers than individuals with borderline personality disorder, despite the dissociative patients' more severe trauma history and higher levels of dissociation [7,94,95].
 - Borderline individuals' affective instability often involves feeling angry, empty and abandoned. In contrast, dissociative individuals do not usually complain of emptiness; rather, they tend to report depression, fear, and shame, and although they experience anger, they are often afraid of anger and conflict, avoiding both when possible.

IMPACT ON TREATMENT

Dissociative symptoms of depersonalization and derealization have been associated with reduced treatment response and may be an important consideration in determining treatment

approach [96-99]. For example:

- In an observational study, 60 individuals with posttraumatic stress disorder (PTSD) were treated with eye movement desensitization and reprocessing therapy. Responders were compared with nonresponders on a number of pretreatment variables. Nonresponders had significantly higher levels of pretreatment depersonalization and derealization, numbing, and overall symptom severity as compared with responders. No such differences were found for other symptoms domains (eg, avoidance). Pretreatment dissociation was found to be predictive of treatment nonresponse [100].
- A prior study reported that individuals with high dissociation who were treated in a cognitive processing therapy group experienced better outcomes than those in the cognitive therapy only group, while those with low dissociation responded better to cognitive therapy only as compared with cognitive processing therapy [101].

However, studies investigating the utility of skills training combined with narrative exposure approach [98] and prolonged exposure [97] have failed to find an impact of dissociation on treatment response.

We assess for dissociation at the time of each treatment session. Emerging work suggests that state dissociation (ie, dissociative symptoms occurring at the time of the treatment session) rather than trait dissociation (ie, the tendency to experience dissociative symptoms) may be a more important factor when considering impact on treatment response [99]. For example, in a sample of 24 individuals with PTSD resulting from childhood sexual abuse, state dissociation predicted response to treatment with a phase treatment approach including dialectical behavior therapy skills and exposure or cognitive restructuring [99]. Patients were more likely to significantly improve following treatment if average state dissociation across sessions was low.

SOCIETY GUIDELINE LINKS

Links to society and government-sponsored guidelines from selected countries and regions around the world are provided separately. (See "Society guideline links: Dissociative disorders" and "Society guideline links: Trauma-related psychiatric disorders in adults".)

INFORMATION FOR PATIENTS

UpToDate offers two types of patient education materials, "The Basics" and "Beyond the Basics." The Basics patient education pieces are written in plain language, at the 5th to 6th grade reading

level, and they answer the four or five key questions a patient might have about a given condition. These articles are best for patients who want a general overview and who prefer short, easy-to-read materials. Beyond the Basics patient education pieces are longer, more sophisticated, and more detailed. These articles are written at the 10th to 12th grade reading level and are best for patients who want in-depth information and are comfortable with some medical jargon.

Here are the patient education articles that are relevant to this topic. We encourage you to print or e-mail these topics to your patients. (You can also locate patient education articles on a variety of subjects by searching on "patient info" and the keyword(s) of interest.)

• Basics topic (see "Patient education: Post-traumatic stress disorder (The Basics)")

SUMMARY AND RECOMMENDATIONS

- Clinical experience, clinical research, and neurophysiological research support a subtype
 of posttraumatic stress disorder (PTSD) characterized by dissociative symptoms and
 associated with early onset interpersonal trauma. (See 'Dissociative subtype of PTSD'
 above.)
- Dissociation is a disruption of the usually integrated functions of consciousness, memory, identify, or awareness of body, self, or environment. Dissociative symptoms can include identity confusion, dissociative amnesia, depersonalization, and derealization. (See 'Concepts and definitions' above.)
- Clinical research supporting dissociative and hyperaroused subtypes of PTSD have been conducted in child and adult samples, and have identified these subtypes in persons who experienced early-onset interpersonal trauma or combat-related trauma. (See 'Dissociative subtype of PTSD' above.)
- PTSD is a common disorder, with a 12-month prevalence in the United States estimated at 3.5 to 6 percent. Approximately 30 percent of individuals with PTSD have the dissociative subtype. (See 'Epidemiology' above.)
- Psychophysiological and neuroimaging studies have found the dissociative and hyperaroused subtypes of response in chronic PTSD to be associated with distinct neural and cardiovascular responses when recalling traumatic memories. (See 'Pathogenesis' above.)

- Dissociative PTSD patients typically have complex presentations, characterized by a
 mixture of dissociative and PTSD symptoms embedded with symptoms of other conditions
 such as depression, substance use disorder, somatoform disorders, eating disorders, and
 self-destructive, impulsive behaviors. (See 'Clinical manifestations' above.)
- Assessment of the dissociative subtype of PTSD has multiple components, including a
 trauma history, assessment for PTSD symptoms including dissociative symptoms, and
 assessment for suicidality and comorbid mood, personality, and substance use disorders
 (table 4). (See "Posttraumatic stress disorder in adults: Epidemiology, pathophysiology,
 clinical features, assessment, and diagnosis", section on 'Diagnosis' and 'Assessment'
 above.)
- Diagnostic criteria for PTSD include a subtype, "with dissociative symptoms," in which
 PTSD symptoms are accompanied by persistent or recurrent symptoms of
 depersonalization or derealization. (See "Posttraumatic stress disorder in adults:
 Epidemiology, pathophysiology, clinical features, assessment, and diagnosis", section on
 'Diagnosis' and 'Assessment' above.)
- Dissociative symptoms, particularly at the time of treatment (eg, state dissociation) may be an important factor in determining treatment response. Clinicians should continue to monitor for dissociative symptoms throughout treatment and aid clients in learning strategies to reduce these symptoms prior to engagement in cognitively demanding treatment (eg, trauma processing). (See 'Impact on treatment' above.)

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