Management of Posttraumatic Stress Disorder: Diagnostic and Therapeutic Issues

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Although the hallmark symptoms of posttraumatic stress disorder (PTSD) are clear, this disorder is not always properly diagnosed. Reasons for misdiagnosis include a high rate of comorbidity, patient denial or minimization, overly high diagnostic thresholds set by clinicians, or failure to take a trauma history. There are a number of challenges associated with the treatment of PTSD. Patients with PTSD may not respond to pharmacotherapy in the same manner, and it is unclear whether this is related to gender, trauma type, or other factors. Antidepressants, particularly the selective serotonin reuptake inhibitors, are the most effective form of pharmacotherapy for patients with PTSD. Patients also may respond to therapy with monoamine oxidase inhibitors or tricyclic antidepressants. Psychosocial techniques, such as cognitive-behavioral therapy or stress inoculation training, are effective and may be considered as adjunctive therapy with medication. As awareness of PTSD increases, more patients should receive an accurate diagnosis and appropriate therapy.

(J Clin Psychiatry 1999;60[suppl 18]:33–38)

Posttraumatic stress disorder (PTSD) is a disabling, chronic illness that frequently is missed as a diagnosis. Patients who suffer from PTSD have either experienced or witnessed a life-threatening trauma usually involving death or severe injury. This event is followed by intense feelings of fear, helplessness, or horror that may be associated with persistent reexperiencing of the event, particularly reliving or dreaming of the event.[1] Patients may feel out of control and may suffer significant morbidity in terms of occupational dysfunction and difficulty maintaining interpersonal relationships.

Traumatic events that may be associated with the development of PTSD include, but are not limited to, military combat, violent physical or sexual assault, natural disasters, and severe automobile accidents.[1] The experience of psychological trauma is common. Sixty-seven percent of patients seeking care in gastroenterology clinics and 50% of patients in pain clinics report childhood physical trauma. Similarly, between 25% and 50% of women who seek gynecologic treatment, particularly for pelvic pain, report childhood sexual abuse.[2] The National Comorbidity Survey estimates that the lifetime prevalence of PTSD is approximately 8% in the general population and that the disorder is more prevalent in women (10.4%) than in men (5%).[3] For men, combat exposure and witnessing someone being injured or killed are the most common traumatic experiences associated with PTSD; rape, sexual molestation, and childhood physical abuse are among the most frequent causes of PTSD in women.[3]

Although a history of trauma is common, the diagnosis of PTSD is missed in a variety of clinical settings.[4–6] In a study conducted by Davidson and Smith,[7] 54 consecutive new referrals to a general psychiatric outpatient clinic were interviewed for a life history of severe traumatic events. Eighty-one percent of the patients had a positive history for at least one traumatic event. Overall, 17 patients had symptoms of PTSD, and 12 patients met DSM-III-R diagnostic criteria for PTSD. However, based on clinical records, only one patient received a diagnosis for PTSD, suggesting that the disorder was largely missed in general psychiatric patients. Dansky and associates[4] noted similar rates of missed diagnosis in a population of patients with substance use disorders. Ninety-five inpatients with substance use disorders were interviewed, and 38 patients (40%) met the diagnostic criteria for PTSD. However, only 14 patients (15%) had PTSD listed as a diagnosis in discharge summaries. Although nearly 50% of the patients had a documented history of sexual or physical assault, most clinicians did not evaluate for PTSD. The incidence of PTSD also was evaluated in a large inpatient psychiatric unit. Eighty-four percent of 343 patients who were administered a trauma questionnaire had suffered at least one

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Presented at the symposium "New Treatments for Anxiety Disorders: Clinical Approaches for Successful Outcomes," which was held May 31, 1998, in Toronto, Ontario, Canada. This symposium was held in conjunction with the 151st annual meeting of the American Psychiatric Association and supported by an unrestricted educational grant from SmithKline Beecham Pharmaceuticals.

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Table 1. Diagnostic Criteria for Posttraumatic Stress Disorder (PTSD)[a]

A. The person has been exposed to a traumatic event in which the person experienced, witnessed, or confronted actual or threatened death or severe injury, or a threat to the physical integrity of self or others. The person's response involved extreme fear, helplessness, or horror.
B. The traumatic event is persistently reexperienced in recurrent and intrusive recollections of the event, recurrent dreams, acting or feeling as if the traumatic event were recurring (eg, reliving the experience), and intense psychological distress or physiologic reactivity at exposure to cues that symbolize or resemble the traumatic event.
C. Persistent avoidance of stimuli associated with the trauma and numbing of general responsiveness experienced with 3 or more of the following: efforts to avoid thoughts, feelings, or conversations associated with the trauma; efforts to avoid activities, places, or people that arouse recollections of the trauma; inability to recall an important aspect of the trauma; markedly diminished interest or participation in significant events; feelings of detachment or estrangement; restricted range of affect; and sense of foreshortened future. These symptoms were not present before the traumatic event.
D. Persistent symptoms of increased arousal indicated by 2 or more of the following: difficulty falling or staying asleep, irritability or outbursts of anger, difficulty concentrating, hypervigilance, and exaggerated startle response. These symptoms were not present before the traumatic event.
E. Duration of the symptoms described in B, C, and D is more than 1 month.
F. The disturbance causes clinically significant distress or impairment in social, occupational, or other areas of functioning.

[a]Modified from DSM-IV,[1] with permission.

traumatic event, and many had symptoms of PTSD. In this population, only 6 patients were diagnosed with PTSD.[6] These studies confirm that PTSD is often present but frequently not diagnosed in patients who have experienced traumatic events.

There are a number of reasons why PTSD may be missed as a diagnosis. The primary reason is that awareness of the disorder is very low. Many clinicians are not familiar with PTSD and, therefore, do not ask about PTSD symptoms. Many fail to ask about traumatic experiences altogether. Other reasons include denial or embarrassment by the patient or physician discomfort with the disorder. Posttraumatic stress disorder may be missed in primary care because physicians typically have a very limited amount of time for each visit, and the diagnosis of PTSD requires eliciting a complex medical and trauma history from the patient. High rates of comorbidity also may cause the diagnosis of PTSD to be missed because more well-known disorders tend to be diagnosed initially.

DIAGNOSIS

The presentation of PTSD includes psychological, behavioral, and somatic symptoms (Table 1). The diagnostic criteria for PTSD include the development of 4 types of symptoms following exposure to a traumatic event: persistently reexperiencing the traumatic event, avoiding stimuli associated with the event, numbing of general responsiveness, and hyperarousal.[1]

Patients with PTSD who suffer from dissociative states may endure extreme psychological distress, and many patients constantly relive the event in the form of intrusive flashbacks or nightmares related to the event. These individuals may alter their behavior to avoid stimuli, such as people or situations that resemble the traumatic event. Patients with PTSD also may present with a number of somatic symptoms, including headaches, chronic pain, irritable bowel syndrome, and fatigue, and may have increased autonomic arousal associated with symptoms of anxiety.

Posttraumatic stress disorder is a disease that can occur at any age and may affect children who have been exposed to traumatic events. Good medical practice would dictate routine screening, particularly in primary care, for the existence of domestic violence, a very common cause of PTSD. There is evidence that 95% of rape victims and 75% of victims of nonsexual assault develop symptoms of PTSD within 2 weeks of the event.[8] In order to elicit a trauma history, it is important to ask the patient direct questions, such as "Sometimes people experience an extremely distressing event, such as physical or sexual assault or an accident. Has anything like this ever happened to you?"

Posttraumatic stress disorder is considered acute when symptoms begin within 3 months of the traumatic event. Chronic PTSD is associated with symptoms that last longer than 3 months, and patients who experience onset of symptoms 6 months or later after the traumatic experience have PTSD with delayed onset.

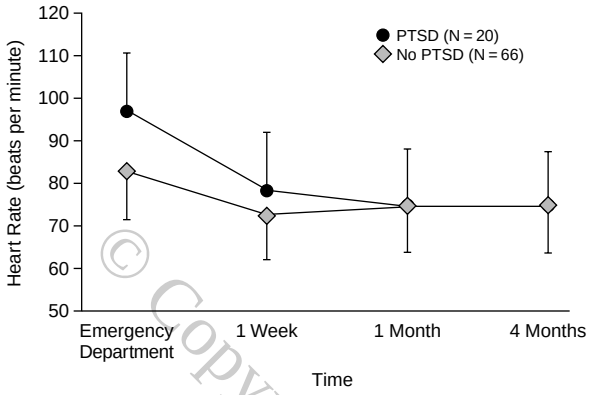
Physiologic reactivity to trauma-related cues is a diagnostic criterion for PTSD. Psychophysiologic assessments that measure heart rate, blood pressure, and skin conductance in response to trauma cues have a sensitivity rate of 60% to 90% and specificity values of 80% to 100%.[9] A recent study noted that elevated heart rate following trauma may be associated with the subsequent development of PTSD[10] (Figure 1). Although techniques that measure physiologic reactivity are not widely used, they may be effective as an aid to diagnosis.

Rating scales also may facilitate the diagnosis of PTSD and can be used to monitor response to treatment. The 8-item Treatment Outcome Posttraumatic Stress Disorder Scale (TOP-8) is a short interview that evaluates the main symptom clusters of PTSD in 5 to 10 minutes[11] (Appendix 6). The Davidson Trauma Scale (DTS) is a self-rated scale that also assesses specific symptoms of PTSD[12] (Appendix 7).

COMORBIDITY

Differential diagnoses for PTSD may include obsessive-compulsive disorder, phobias, dissociative disorder, generalized anxiety disorder, panic disorder,

Figure 1. Heart Rate Measurements in Subjects With and Without Posttraumatic Stress Disorder (PTSD)[a]



[a]From reference 10, with permission.

depression, and substance use disorders.[1] Comorbidity in patients with PTSD should be expected because of symptom overlap, and sometimes it is difficult to distinguish whether comorbid disorders preceded or followed the onset of PTSD. Recurrent intrusive recollections are a feature of PTSD and also are experienced by patients with obsessive-compulsive disorder. Phobic avoidance of situations related to the trauma is a primary symptom of PTSD and may be a feature of other anxiety disorders including social anxiety disorder and agoraphobia. Another characteristic of PTSD is dissociation, particularly in acute cases, whereby the patient may report amnesia or flashbacks. During a dissociative episode, the person may behave as though he or she is experiencing the event. Patients with PTSD also experience hyperarousal, edginess, and poor concentration, symptoms that may suggest generalized anxiety disorder or panic disorder. Without further assessment of a patient with these symptoms, an erroneous diagnosis may result.

Patients with PTSD also have a tendency to develop depression and substance use disorders. Many patients who present with depression may have underlying, undiagnosed PTSD, an expected finding given the diagnostic overlap in these disorders. The National Comorbidity Survey indicated that the rates of major depression, dysthymia, and mania are elevated in patients with PTSD.[3] Furthermore, the incidence of alcohol and substance abuse is doubled in patients with PTSD compared with patients without the disorder.[3]

TREATMENT OF PTSD

Several issues should be considered when treating patients with PTSD, including education, support, anxiety management, and lifestyle modification. Education is a critical component in the management of PTSD. It is important to help the patient understand the nature of his or her condition and adaptive behaviors that may develop in response to stress. The clinician should attempt to destigmatize PTSD for the patient and explain that the experience of major trauma is a life-altering event. One of the most important therapeutic tasks is to help patients accept that the trauma has occurred so that they will not have the heavy burden of constantly reliving the experience. Patients with PTSD should be encouraged to share their experiences in a supportive environment, and it is essential that patients have support from their therapist, family, and friends. Some communities have specific support groups for patients with PTSD that are highly beneficial.

Table 2. Considerations for Pharmacotherapy for Patients With PTSD

Treatment compliance
Tolerance of adverse effects
Indefinite treatment duration
Stigmatization/sick role
Support system
Issues of trust

Anxiety-management techniques may be nonspecific, but often are helpful to patients. Clinicians may recommend relaxation or breathing training techniques to reduce stress. Lifestyle modifications, such as developing regular sleep patterns, adopting an exercise program, and maintaining a healthy diet, also should not be underestimated and may help the patient to regain a sense of control.

Pharmacotherapy

Pharmacotherapy should be considered for the treatment of patients with PTSD (Table 2). For pharmacotherapy to be effective, the patient must be comfortable with the idea of taking medications. Many patients with PTSD do not want to take psychotropic medications; therefore, the first task is to help patients understand the role of medications. Selecting medications that are easier to administer (e.g., once daily versus 3 times daily) and have a low adverse-effect burden may enhance patient compliance. It is crucial that patients understand the potential for adverse effects and that medications should not be discontinued at the first signs of discomfort.

Pharmacotherapy for PTSD may be categorized into 3 phases: stabilization, maintenance, and discontinuation. Engaging the patient and building an alliance is the first step of stabilization. The patient should understand that although the condition was started by an external environmental stressor, some physical and biological changes may have occurred that can be normalized by medications. Potential adverse effects also should be explained to the patient early in the course of therapy. For example, patients who experience panic attacks may be particularly sensitive to the stimulatory effects of certain antidepressants. During the stabilization phase, the key to successful pharmacotherapy is to start with a low dose and titrate

gradually. It may take 2 to 3 months to stabilize a patient on medication. Also, patients who do not respond to one agent initially may respond to another agent. Although the duration of maintenance therapy for PTSD is unknown, pharmacotherapy will be necessary for at least 12 months and, similar to treatment of many anxiety disorders, may be lifelong. Discontinuation may be considered when response to therapy has been robust and maintained. Some keys to successfully discontinuing medications include helping the patient develop anxiety-management skills, providing adequate support, and slowly decreasing the dose. When ready and confident to discontinue medications, patients should be aware of the possibility and consequences of relapse.

Although no medications have been approved by the Food and Drug Administration for the treatment of PTSD, a number of agents have been evaluated as potentially effective therapies. There are limited double-blind controlled trials that have investigated the efficacy of medications in PTSD.[5,13–20]

Many of the earlier studies evaluated the effects of amitriptyline and phenelzine in combat veterans.[17,21–23] In an 8-week controlled study, Kosten and associates[17] compared phenelzine, imipramine, or placebo in the treatment of 60 male veterans with PTSD. The mean treatment retention time was longer for patients treated with phenelzine (7.4 weeks) compared with those who received imipramine (5.6 weeks) or placebo (5.5 weeks). Both drugs were superior to placebo.

The monoamine oxidase inhibitor (MAOI) phenelzine is highly effective in the treatment of PTSD. However, adverse-effect profiles and the need for dietary restrictions may limit the use of MAOIs in clinical practice. The reversible inhibitors of monoamine oxidase A (RIMAs) also have been evaluated in patients with PTSD, but appear to be only moderately effective.[16]

The tricyclic antidepressants (TCAs) may be considered for second- or third-line therapy. Clinical trials have shown that imipramine and amitriptyline are moderately effective in the treatment of PTSD in combat veterans.[5,17] Davidson and associates[24] evaluated the predictors of response to amitriptyline in patients with combat-related PTSD. This study noted that patients who had the most intense exposure to battle, increased suicidality, and increased neuroticism had poor response to therapy, whereas patients with lower baseline levels of depression, anxiety, somatic symptoms, and feelings of guilt had improved response. Overall, there are a number of benefits associated with TCA therapy, including efficacy, improvement in sleep, and once-daily dosing. However, many of these benefits are offset by the significant incidence of adverse effects, risk for overdose, poor compliance rates, and discontinuation syndrome.

Several open-label trials with selective serotonin reuptake inhibitors (SSRIs) have demonstrated significant improvement of symptoms in patients with PTSD.[5,25–34] These studies suggest that SSRIs have a broad spectrum of effect on all of the PTSD symptom clusters, particularly hyperarousal reflected in symptoms of agitation, anxiety, and insomnia, and may be considered for first-line therapy. The SSRIs are highly effective and well tolerated, are not associated with potential for abuse, and may be administered once daily.

In a 12-week study evaluating the treatment of 5 adult female rape victims diagnosed with PTSD, 4 patients responded to treatment with sertraline as evidenced by a 30% or greater reduction in symptoms. The most common adverse effects associated with sertraline included tremor, dry mouth, nausea, and drowsiness.[33] De Boer and colleagues[26] evaluated the efficacy of fluvoxamine in 24 war veterans diagnosed with chronic PTSD. Although improvements were modest, fluvoxamine alleviated symptoms of insomnia, nightmares, anxiety, intrusive recollections, guilt feeling, and tiredness.

The efficacy of fluoxetine also has been evaluated in a number of open-label studies.[31,32,34,35] Fluoxetine improves both intrusive and avoidant symptoms in patients with PTSD.[35] In one study, 20 Vietnam war veterans meeting the criteria for PTSD were treated with open-label fluoxetine for a minimum of 4 weeks. Based on global improvement on the Clinical Global Impressions scale, 65% of patients treated with fluoxetine responded to therapy. Treatment with fluoxetine also reduced rage, anger, and irritability in patients with PTSD.[32,34]

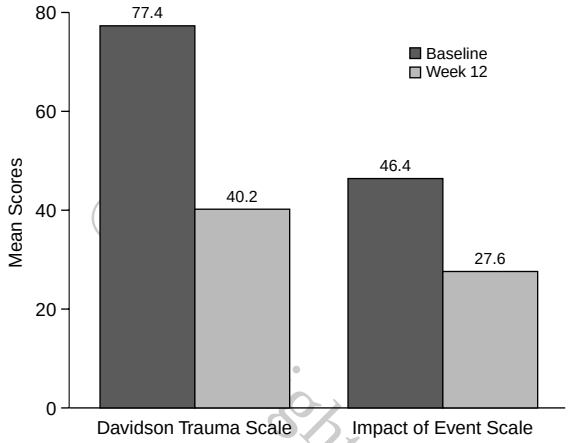
In a recent study, Marshall and associates[29] evaluated the effects of paroxetine in the treatment of noncombat-related, chronic PTSD. Thirteen patients completed 12 weeks of paroxetine therapy. Paroxetine significantly improved all 3 PTSD symptom clusters (e.g., intrusive, avoidance/numbing, arousal), and mean reduction in total PTSD symptom scores was 48%. Patients who responded to therapy experienced a mean reduction of 44.2 points on the Davidson Trauma Scale and were significantly less symptomatic on the Impact of Event Scale (Figure 2). Avoidance, hyperarousal, and intrusive symptoms improved within 8 weeks (Figure 3).

There is accumulating evidence that pharmacotherapy is effective for the treatment of PTSD. Patients with psychiatric comorbidities, such as depression, may be particularly responsive to antidepressant therapy. The SSRIs may be used for first-line therapy because of their broad-spectrum effect on PTSD symptoms and favorable adverse-effect profile. Therapy should be initiated slowly and, when efficacious, should be maintained for at least 12 months. For patients who do not respond to SSRI therapy, a TCA or MAOI may be considered. The benzodiazepine alprazolam was ineffective in PTSD when compared with placebo.[13]

Psychotherapy

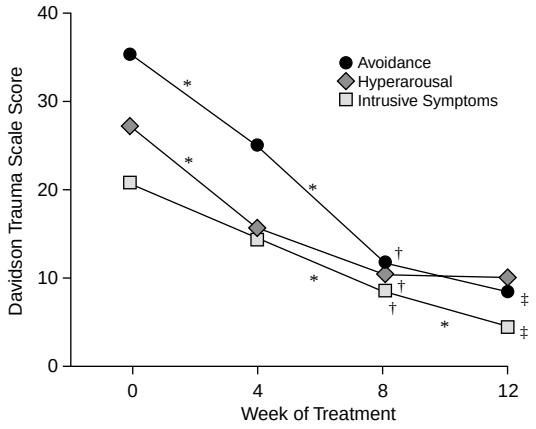
Psychotherapy can be integrated with pharmacotherapy or considered as a treatment alternative for patients with

Figure 2. Improvement of PTSD Symptoms Based on Davidson Trauma Scale and Impact of Event Scale for 17 Patients Treated With Paroxetine for 12 Weeks[a]



[a]Data from reference 29.

Figure 3. Time Course of PTSD Symptom Improvement in Responders to Paroxetine (N = 10)[a]



[a]From reference 29, with permission.
*Significant between 4-week intervals ($p < .05$).
†Significant between weeks 0 and 8 ($p < .001$).
‡Significant between weeks 4 and 12 ($p < .001$).

PTSD. Patients who have suffered a traumatic experience frequently are demoralized and may continue to feel powerless, alienated, and angry. Numerous psychotherapeutic techniques can help patients overcome demoralization and reduce feelings of fear, helplessness, and avoidance. Some patients do not find it easy to reexperience the traumatic events as part of exposure therapy, and up to 50% may be noncompliant with exposure therapy.[36] Therefore, it is important that the patient is motivated to begin psychosocial therapy, is willing to accept the probability of some transient distress, understands that frequent and intense sessions will be required, and has a social support system. Some therapies that have been investigated in the management of PTSD include cognitive-behavioral therapy, prolonged exposure, supportive-psychodynamic therapy, and stress inoculation training.[30]

Prolonged exposure treatment and stress inoculation training are effective therapies for patients with PTSD.[8] In the prolonged exposure treatment, patients recount their traumatic experience while being audiotaped and are asked to listen to their accounts as a homework assignment. Patients also are exposed to objects or situations that may be avoided because of fear. As part of the stress inoculation training, patients are taught techniques, such as controlled breathing, muscle relaxation, and cognitive restructuring, that help to reduce anxiety. In one analysis, Foa and colleagues[37] noted that patients who received prolonged exposure treatment continued to show improvement for 6 months after the end of therapy. There also is evidence that early treatment of trauma victims may prevent the onset of chronic PTSD. Foa and associates[38] reported that recently traumatized women who received four 2-hour weekly sessions of brief prevention therapy were less symptomatic compared with control patients who received no active treatment.

Psychosocial techniques are effective in the management of PTSD and may ameliorate many of the symptoms associated with this disorder. In fact, early treatment prevents the development of chronic PTSD in some patients. A number of psychotherapeutic techniques are available and may be used in conjunction with pharmacotherapy.

SUMMARY

Posttraumatic stress disorder is an illness that is relatively common but frequently misdiagnosed. Presentation of PTSD includes psychological, behavioral, and somatic symptoms, and patients with PTSD tend to have a high incidence of comorbidity, particularly with depressive disorders. Fortunately, patients diagnosed with PTSD respond to both pharmacotherapy and psychotherapy, and, as awareness of PTSD increases, more patients should receive an appropriate diagnosis and effective treatment. Clinicians must remain alert to the symptoms of PTSD in patients who have suffered either a past or recent trauma or who have comorbid disorders, and should offer their patients appropriate pharmacotherapy and psychotherapeutic treatment options.

Drug names: alprazolam (Xanax and others), amitriptyline (Elavil and others), fluoxetine (Prozac), fluvoxamine (Luvox), paroxetine (Paxil), phenelzine (Nardil), sertraline (Zoloft).

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