Posttraumatic Stress Disorder in Veterans: Inpatient Assessment and Management

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Early recognition and treatment may be key for our newest veterans returning with combat-related posttraumatic stress disorder. This article focuses on how health care professionals working on inpatient units can make a difference.

Posttraumatic stress disorder (PTSD) is a complex syndrome that involves physiologic changes in the body's stress response following a traumatic experience. Although the pathophysiology is not fully understood, it has been proposed that continual interaction between this altered response system and memories, thoughts, and feelings associated with the trauma exacerbates such symptoms as nightmares, sleep disturbances, anger problems, and flashbacks.[1] Other symptoms—such as avoidance, emotional numbing, and detachment from other people—add to the scope of negative effects PTSD can have on a patient's life. About 19% of people with PTSD attempt suicide.[2]

Following a traumatic event, most of the recovery happens in the first three months and continues through the first year. Beyond this time PTSD can become a chronic condition.[2] It's been demonstrated that people with chronic PTSD have higher rates of depression, substance abuse, divorce, and unemployment than people without the disorder.

Chronic disease, however, is not the inevitable course of every case—or even of most cases—of PTSD. While other factors may be at work, the time it takes to diagnose and treat PTSD likely has a strong influence over whether or not the disease becomes chronic.[3] This relationship is illustrated by the fact that most Vietnam veterans with PTSD were not diagnosed until years after their combat experiences,[4] and many of them continue to struggle with their PTSD symptoms to this day.[5] The hope for the newest veterans returning from Iraq and Afghanistan is that more rapid diagnosis and early, effective interventions will help shorten the course of their disease and minimize associated morbidity.

In fiscal year 2005, the VA treated about 317,000 veterans with a primary or secondary PTSD diagnosis.[6] While the VHA has evolved over the past decade to focus more on outpatient care, many veterans with PTSD are being diagnosed and treated—at least initially—in an acute, inpatient setting. In this article, we review the diagnosis and management of PTSD, with a special emphasis on considerations for inpatient units.

EPIDEMIOLOGY AND COSTS OF PTSD AMONG VETERANS

According to the National Institute of Mental Health, approximately 7.7 million adults in the United States have PTSD in a given year, for a prevalence of 3.5%.[7] Findings of the 2005 National Comorbidity Survey Report suggest that the lifetime prevalence of PTSD in the general U.S. adult population is 6.8%.[8] Data from this report also demonstrated that, despite a lower rate of reported trauma, women were more likely than men to develop PTSD during their lifetimes.[8]

Having witnessed or engaged in combat also puts people at increased risk for PTSD—which is not surprising, given that PTSD was first recognized in soldiers after war. Data from the National Vietnam Veterans' Readjustment Study, conducted between November 1986 and February 1988, showed consistently higher PTSD rates for veterans who were deployed to the Vietnam theater of war compared with both civilians and veterans who served during the Vietnam era but did not see combat.[5] This study also found that the rate of current PTSD increased substantially with higher levels of war zone exposure, from 15.2% to 35.8% among male veterans and from 8.5% to 17.5% among female veterans.[5]

The lifetime prevalence of PTSD in Vietnam veterans is estimated at about 30%.[9] Estimates for veterans of the first Persian Gulf War have been as high as 8%.[9] The tendency for female service members (like women in the general population) to screen positive for PTSD more often than their

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male counterparts has been observed in Gulf War veterans[10]—and may continue in present and future combat operations.

Given that Operation Enduring Freedom (OEF) and Operation Iraqi Freedom (OIF) are ongoing, it is difficult to project the proportion of OEF/OIF veterans who will develop PTSD. A recent VA fact sheet, however, estimated that 10% to 15% of military personnel returning from deployment in Iraq develop PTSD, and another 10% have significant symptoms of PTSD, depression, or anxiety that would benefit from care."[6] A 2006 report by Kang, using data on OIF/OEF veterans who had separated from active duty, indicated that 25,317 of these veterans had sought care from the VA for PTSD between 2002 and 2006. These veterans represented 15% of all separated OIF/OEF veterans seeking VA health care during this period.[11]

Evidence suggests that, while treating PTSD is a costly endeavor, the expenses associated with inaccurately diagnosed or inadequately treated PTSD are even higher. In a presentation to the FDA, Giller and Vermilyea discussed a study of women enrolled in a health maintenance organization, which showed that members who had experienced severe sexual trauma had double the outpatient medical expenses of control members. Another study examined inpatient admissions for women with trauma-related dissociative disorders and found that, prior to being diagnosed correctly, these patients averaged 99 months of inpatient treatment—for a total cost of about $2.8 million. After diagnosis, they averaged only 32 months of inpatient treatment. The researchers estimated that reducing the prediagnosis inpatient treatment time to 12 months would save $250,000 per patient. Furthermore, early outcome studies support the cost-effectiveness of early diagnosis and appropriate treatment of trauma-related disorders.[12]

EVOLUTION OF A DIAGNOSIS

Difficulties experienced by soldiers after combat operations have long been chronicled. The syndrome arising from traumatic stress was termed "shell shock" during the World War I era and "battle fatigue" during the World War II era. It was not until 1980, however, that PTSD was defined as a psychiatric diagnosis in the third edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-III).

Since then, further research has led to minor revisions of the diagnostic criteria, but these criteria remain essentially similar in the text revision of the fourth edition of the DSM (DSM-IV-TR).[13–15] Descriptions of these six criteria (A through F) follow.

Traumatic event exposure

Criterion A has two requirements. First, the person must have experienced, witnessed, or confronted trauma involving death, serious injury, or a threat to one's own or another's physical integrity. Second, the person's response to the trauma must involve feelings of horror, helplessness, or intense fear.[15]

A wide range of traumatic events have been associated with PTSD, including motor vehicle accidents, physical assaults, mass murders, and natural disasters. Leading traumas for women are rape, sexual assault, and sudden or unexpected death of a loved one.[3] In the military population, it has been recognized recently that PTSD symptoms are associated not only with combat but also with events that occur during peacekeeping deployments and humanitarian missions, terrorist acts, and sexual trauma.[16]

Persistent reexperiencing

Criterion B defines reexperiencing the traumatic event and is diagnostic if a person has one or more of the following symptoms:

- recurrent and intrusive memories of the event;
- distressing, recurrent dreams of the event;
- acting or feeling as if the traumatic event were recurring, including a sense of reliving the experience, hallucinations, illusions, or dissociative "flashback" episodes that may occur while the patient is awake or intoxicated;
- intense psychological distress related to both external and internal cues that resemble an aspect of the traumatic event (for example, witnessing someone being injured); and
- physiologic reactivity to external or internal cues symbolic of the traumatic event.[15]

Avoidance of trauma stimuli

Criterion C lists behaviors that demonstrate persistent avoidance of trauma-associated stimuli and a generalized numbing of emotional responsiveness. Three or more of the following avoidant symptoms must be present:

- efforts to avoid conversations, thoughts, or feelings associated with the trauma;
- avoidance of places, people, or activities that arouse memory of the trauma;
- inability to remember an important feature of the trauma;
- withdrawal or diminished interest from activities previously deemed important;
- feelings of estrangement or isolation from other people;
- restricted range of affect (inability to feel or express loving emotions); and

- sense of a shortened future, such as a feeling that one's lifespan will be curtailed or that one is unlikely to have a long, fulfilling career.[15]

Increased arousal

Criterion D involves the persistence of two or more symptoms of increased arousal that did not exist before the trauma. These symptoms include:

- difficulty falling or staying asleep,
- outbursts of anger or irritability,
- difficulty concentrating,
- hypervigilance, and
- an exaggerated startle response.[15]

Duration of disturbance symptoms

Criterion E specifies the duration of symptoms required for a PTSD diagnosis and defines delayed onset. A diagnosis of PTSD requires that symptoms be exhibited for one month or longer. Symptoms lasting fewer than three months are considered acute, and those lasting longer than three months are deemed chronic. Delayed onset is defined when symptoms begin six months or longer after the traumatic event.

Severity of impairment

According to criterion F, the inability to take care of nutritional or hygienic needs usually is apparent. Social impairment may result in patients experiencing varying degrees of difficulties in seeking help and in returning or continuing to work.[15]

CHALLENGES OF APPLYING THE CRITERIA

Despite the availability of these established criteria, and the fact that PTSD is the fifth most common psychiatric disorder, PTSD is correctly diagnosed less than 20% of the time.[17] The challenge is in applying a list of criteria to "real world" situations, in which the line between normal and abnormal reactions to trauma is not always clear. In a 2003 editorial for the *Wall Street Journal*, Sally Satel discussed this ambiguity, citing a study of Rwandan adults who had witnessed the violent death of friends and relatives. The study found that 90% of these trauma-exposed adults exhibited such PTSD symptoms as poor concentration, distressing memories, and difficulty sleeping. Even so, more than half of them were optimistic about the future and their ability to care for their families. Satel quoted Harvey Weinstein, director of the Human Rights Center at the University of California at Berkley, who cautioned that, "At the extreme, if we think about these symptoms as a manifestation of psychiatric disturbance, then we are left with diagnosing the people of an entire nation with a psychiatric disorder."[18]

Another challenge to PTSD diagnosis is navigating the controversial territory of possible malingering by patients. Given that the VA pays disability compensation and allows access to health care benefits for veterans determined to have service-connected PTSD, concerns over false or inaccurate claims have been raised at various times. Recently, Frueh and colleagues conducted an archival review of U.S. military personnel files for 100 male, Vietnam War era veterans who sought treatment for combat-related PTSD, 62% of whom reported applying for disability compensation. The review found that 93% of the veterans had clear documentation of serving in Vietnam, 41% had specific documentation relating to combat exposure, 32% served but had no documentation of serving in a combat area, and 5% appeared to make false claims.[19]

According to a 2006 report by the Institute of Medicine (IOM), the potential for malingering in the context of PTSD presentation is acknowledged in the DSM-IV-TR. The DSM-IV-TR advises that health care providers consider such factors as the presence of any significant discrepancies between the patient's reports and clinical findings, a lack of cooperation with the diagnostic or treatment process, and the presence of antisocial personality disorder. Additionally, the IOM report cites certain psychometric instruments (the Minnesota Multiphasic Personality Inventory-2 and the Impact of Event Scale-Revised) that may help detect malingering in PTSD reports and lists several "red flag" behaviors identified by Wilson and Keane. These include demonstrated falsification of documentation, an overemphasis on flashback experiences relative to other PTSD symptoms, a tendency to blame all problems on PTSD symptoms, and psychometric testing that shows a pattern of malingering and does not support probable PTSD.[14]

INPATIENT EVALUATION OF PTSD

Although the VA/DoD PTSD clinical practice guidelines advocate screening all new primary care patients for PTSD and following up with periodic outpatient screenings thereafter, a myriad of factors (including possible delayed onset of symptoms and patients' reluctance to self-report PTSD symptoms) may impede detection of PTSD in the outpatient setting. Given the importance of early diagnosis and treatment of PTSD, therefore, it's important for health care professionals working on acute psychiatric inpatient units to be able to recognize the signs of a possible trauma-related disorder and to differentiate these signs from those of other conditions.

All PTSD evaluations require a face-to-face interview. Since patients customarily are interviewed on the

first or second day of an acute admission, the health professional performing this interview typically has the first opportunity to decipher the symptoms of PTSD and begin the diagnostic process.[20] The crucial first step is discerning the potential role of a traumatic event in the etiology of the patients' symptoms.[20] In fact, the act of uncovering and acknowledging a trauma may itself be therapeutic if it allows the veteran to share experiences with a professional who understands the impact trauma can have on a person's life and health.[20]

It is essential that an adequate amount of time be allocated for the interview. The entire process of diagnosis and assessment can take anywhere from one hour to longer than several hours. The interview should review the patient's symptoms and history of traumatic events. Veterans with PTSD may present with reports that are physical or psychiatric in nature.[14] It's important to rule out any underlying medical conditions that may be causing the symptoms. Additionally, PTSD symptoms may be masked by a concurrent behavioral or psychiatric disorder, life crisis, or uncontrolled substance abuse disorder. Keep in mind that the time between symptom onset and presentation to a health care professional may vary widely from patient to patient.

A number of instruments are available to aid in eliciting a trauma history, screening for and assessing PTSD symptoms, and conducting a detailed patient interview. The VA National Center for PTSD (NCPTSD) has developed several tools, including the Primary Care PTSD Screen, a four-item screening tool; the PTSD Checklist (PCL), a 17-item self-report measure; the Mississippi Scale for Combat-Related PTSD (M-PTSD), a 35-item self-report measure designed specifically for military veterans; and the Clinician-Administered PTSD Scale (CAPS), a 30-item structured interview.[21] Another test frequently used is the Post Traumatic Stress Diagnostic Scale (PDS), a 49-item self-report measure.[22]

The CAPS is considered the gold standard for assessing PTSD. This instrument guides providers in eliciting traumatic exposures, assessing all 17 PTSD symptoms described in the DSM-IV-TR, and gauging the impact of these symptoms on social and occupational functioning. Wording of CAPS questions can be adjusted to help make a lifetime or a current PTSD diagnosis or to monitor symptoms over the past week.[23]

For each CAPS item addressing PTSD symptoms, there is one question about frequency and one about intensity. Both types of questions use a scale of 0 to 4, with 0 representing "never" for frequency and "none" for intensity and 4 representing "daily or almost every day" for frequency and "extreme" for intensity. According to the NCPTSD, the most common scoring method counts a symptom as present if the patient has indicated a frequency of at least 1 ("once or twice") and an intensity of at least 2 ("moderate"). Some items include follow-up questions to clarify vague responses.[23]

Like the CAPS, the PDS covers all DSM-IV-TR diagnostic criteria for PTSD, measures the frequency of symptoms, and can be modified easily to gauge symptoms over different timeframes.[22] Though short, the PCL is based on the DSM-IV-TR diagnostic criteria and allows for multiple traumas.[24] The M-PTSD items sample DSM-III PTSD symptoms, as well as other features frequently associated with PTSD (such as substance abuse and depression).[25]

Clinicians usually agree that the most effective way to diagnose PTSD is to combine the findings from structured interviews and validated self-report assessment tools. Even veterans who do not meet the full criteria for a PTSD diagnosis may have symptoms that require treatment.

TREATMENT GOALS

The VA and DoD have defined the following broad outcome goals for treatment of service-related PTSD: decrease the physical, psychological, and behavioral morbidity of PTSD; hasten the return to full activities of daily living (including work); and diminish the likelihood that the condition will become chronic.[16] The VA encourages providers to discuss with patients the range of available and effective PTSD treatment modalities. These include pharmacologic treatments, psychotherapy, psychoeducation, and supportive measures.[16] Involving family members in some therapeutic activities may aid them in providing needed support to the patient.

For patients admitted with acute symptoms, immediate pharmacologic treatment may be needed to ensure the patient's safety and to stabilize his or her medical condition. Once these acute issues have been addressed, it is usually appropriate to add psychotherapy and pyschoeducation.[16] In general, patients tend to obtain better results from a combination of medication and psychotherapies.[2]

In an inpatient setting, it is important for unit staff to be aware of the implications PTSD may have on their interactions with the patient. To avoid startling the patient, staff should approach the patient calmly and slowly within his or her field of vision; minimize loud, unexpected noises; and wake the patient verbally rather than by touch. Observe the patient for exaggerated startle responses, recurrent distressing dreams with sleep alterations, dissociative

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flashback episodes, isolation from peers, and acting-out behaviors. Occurrences of the aforementioned have been associated with patients harming themselves or others.[15]

THERAPEUTIC MODALITIES

Psychoeducation

Educating patients and family members about PTSD is vital. Psychoeducation may be especially important for patients with comorbid psychiatric conditions. Pratt and colleagues studied the use of psychoeducation, designed to broaden patients' knowledge and understanding of PTSD and available treatment options, in 70 residents of a state mental health institution who had severe mental illness and who met criteria for PTSD. The patients attended three group educational sessions that used a video and discussion format. In addition to improving participants' knowledge scores on a PTSD questionnaire, the sessions appeared to heighten their motivation to pursue treatment for their trauma-related symptoms. The researchers concluded that their findings support the use of psychoeducational programming as an initial step to increase knowledge about trauma and PTSD and to stimulate interest in treatment.[26]

Pharmacotherapy

In humans, serotonin regulates pain, appetite, motor function, sleeping, aggression, stress, and memory. Lower than normal levels of serotonin have been observed in people diagnosed with PTSD and may be responsible for some of the disorder's classic symptoms. Long-term treatment of PTSD using selective serotonin reuptake inhibitors (SSRIs) has been effective in improving patients' quality of life. When patients with PTSD discontinue SSRIs after 12 weeks of treatment, however, studies have shown an increased risk of relapse and of exacerbation of PTSD symptoms. To date, two SSRIs—sertraline and paroxetine—have been FDA approved to treat PTSD.[2]

Additionally, studies have examined the use of antipsychotics, nonselective serotonin reuptake inhibitors, antidepressants, and antiepileptics to treat PTSD. While some improvement in PTSD symptoms has been observed with these medications, further study is needed to determine their effectiveness in the setting of PTSD.[27]

Psychotherapy

Psychotherapy for PTSD concentrates on helping the patient learn healthy ways to cope with the intense and conflicting emotions related to the disorder. In PTSD, the mainstay of psychotherapeutic interventions is cognitive-behavioral therapy (CBT). One commonly used CBT technique is cognitive restructuring, in which the therapist works with the patient to identify and then challenge problematic thinking patterns. In a veteran with combat-related PTSD, for example, such therapy might work toward restructuring his or her thought that "it was my fault" to "shooting was the only option I had." Exposure therapy, another type of CBT, aims to help the patient gain control of the fear and stress induced by the traumatic memories in a controlled environment.

A newer therapeutic strategy, known as eye movement desensitization and reprocessing (EMDR), combines CBT with eye movements, hand tapping, or sounds that shift the patient's attention back and forth. While this therapy has shown greater efficacy compared with psychodynamic, relaxation, supportive, and placebo (wait list) therapies, it is not clear whether EMDR adds benefit beyond traditional CBT.[28]

When patients with PTSD are treated in an inpatient setting, the hospital or program environment can be used as a therapeutic community—that is, it can serve as a model for teaching the patient to manage everyday situations in a healthy, adaptive manner. This type of environment must support patient-centered care that focuses on health outcomes, incorporate a democratic self-government that assigns responsibilities to patients on the unit, and include a structured program for community and family involvement to facilitate discharge from the unit.

ADDRESSING COMORBID SUBSTANCE ABUSE DISORDERS

Dating back to the time of Hippocrates, it was believed that alcohol was useful for decreasing anxiety.[29] Today, the connection between stress and anxiety and alcohol or drug use continues, with high rates of comorbidity between PTSD and substance use disorders.[30]

The VA medical center in Lyons, NJ has developed a PTSD Residential Rehabilitation Program (PRRP) to meet the needs of veterans with war-related PTSD and a history of substance abuse who would benefit from an intensive PTSD treatment experience. The PRRP is group oriented with an emphasis on improving coping skills, stabilizing psychiatric symptoms, supporting sobriety, and achieving a balanced, healthy lifestyle. The goal is to direct energy toward constructive, adaptive, and appropriate ways of managing stress.

Admission to the PRRP is elective. An extensive psychological and social history is obtained from the referring therapist, including previous PTSD programs in which the veteran has participated, history of family relationships, educational years completed, and employment history. The

veteran must have no legal charges pending and be completely abstinent from alcohol and illicit drugs for 21 days prior to the screening.

FOLLOW-UP CARE

According to Fontana and colleagues, 25% of veterans are rehospitalized within six months after inpatient treatment for PTSD.[31] And roughly one third of veterans who receive VA inpatient services for PTSD do not follow up with their outpatient mental health visit one month after discharge.[31] In a study of over 400 male combat veterans who had completed a VA residential rehabilitation program for PTSD, Hartl and colleagues found that 50% relapsed within four months of discharge.[32]

To help prevent relapse and ensure adherence to outpatient treatment programs, alternative interventions may be needed.[33] For example, clinical trials testing the effectiveness of fluoxetine for relapse prevention (in populations that included veterans) have shown promise. The patients in these trials responded satisfactorily to fluoxetine at doses within the upper range of usual doses.[34,35]

Telephone support has been used in a variety of outpatient populations—such as patients with depression and those who are prone to addiction—to enhance patient adherence.[36–38] Rosen and colleagues conducted a pilot study in which biweekly telephone support was used to keep veterans with PTSD engaged in outpatient treatment.[39] Telephone calls varied in length from four to 63 minutes (median, 18 minutes). Compared to the patients who did not receive telephone support, twice as many patients who received such support completed their outpatient appointment within 30 days of discharge. Following the study, 85% of the patients who received telephone support said they wished the support could continue.[39]

Returning to work is another challenge for patients recovering from PTSD. Health care providers can help facilitate this transition by taking steps to improve communication between the patient and his or her employer and by recommending that the employer adopt certain practices (Table).[40]

UNDERSTANDING IS KEY

As health care professionals face the challenge of treating a new generation of returning warriors, their perspectives must become prospective and broaden to include new treatment modalities. This is accomplished by building on the lessons learned from the past, serving veterans in present need, and developing new or revised treatment interventions.

Assessing the patient initially in primary care or upon admission to an inpatient facility is vital. It's also important to realize the scope of implications a PTSD diagnosis has for patient-provider interaction, particularly in an inpatient setting. For instance, patients with PTSD are at increased risk for harming themselves or others.

Sensitivity on the part of health care providers can reinforce an effective and positive alliance with the patient. Staff training and multidisciplinary care coordination are essential. In addition, it may be helpful for providers to develop protocols for screening patients being discharged for factors that put them at risk for relapse, nonadherence, or other problems that would complicate treatment. The goal is to facilitate the transition to outpatient programs as part of a long-term CBT plan.

PTSD is a real diagnosis that can be as significant in the long term as any nonpsychiatric, medical condition. Providers' knowledge of PTSD may be strengthened when they acknowledge and support patients' efforts to obtain meaning from their debility and the toll it takes on their health. And with better understanding of PTSD,

Table. Recommendations for employers of veterans with PTSD[40]

- If the employee has difficulty concentrating, provide an enclosure or private space.
- Divide large, potentially overwhelming assignments into small units.
- Since people with PTSD may forget or get confused, give the employee assignments in writing as well as orally.
- Give clear expectations along with consequences of not meeting expectations.
- Provide day-to-day guidance.
- If the employee overreacts to a situation, he or she may need longer and more frequent breaks.
- Allow the employee to contact his or her support person.
- Since people with PTSD often do not sleep well, allow flexible scheduling for the employee.
- Set up a buddy system for employees with similar experiences.

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providers may become more effective in caring for veterans who have sacrificed for our country.

Author disclosures

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The opinions expressed herein are those of the authors and do not necessarily reflect those of Federal Practitioner, *Quadrant HealthCom Inc., the U.S. government, or any of its agencies. This article may discuss unlabeled or investigational use of certain drugs. Please review complete prescribing information for specific drugs or drug combinations—including indications, contraindications, warnings, and adverse effects—before administering pharmacologic therapy to patients.*

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