Military-related PTSD: The Epidemiology, Symptoms and Treatment Considerations

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The wars in Iraq and Afghanistan are producing a new generation of veterans at risk for the chronic mental health problems that result, in part, from exposure to the stress, adversity, and trauma of war-zone experiences. Military returnees are experiencing posttraumatic stress disorder (PTSD) and other mental health problems in numbers not seen since the war in Vietnam. Beyond the treatment efforts offered by the Veterans Administration, other rehabilitation and mental health providers will be needed to provide ongoing services. The intent of this article is to focus on the estimated prevalence, symptoms and treatment considerations related to PTSD. Although most military personnel returning from deployments will readjust successfully, a significant number of soldiers will exhibit PTSD or some other psychiatric disorder. Qualified professionals are and will be required to work with this population.

Posttraumatic stress disorder (PTSD) is a chronic and disabling psychiatric disorder that may develop following exposure to a traumatic incident. Therefore, military personnel are among the most at-risk populations for exposure to traumatic events and the development of PTSD (Monson et al., 2006). Shalev and Miller (2004) commented,

> *We can count the dead. We can see the physical injuries. But in soldiers returning home, it's hard to see the psychological damage among those who have witnessed the blood, heard the screaming, felt the shattering blast and smelled the burning flesh. Unless they make some sense of what they saw and felt under fire, they'll continue to relive the experiences of war (p. 70).*

Unfortunately, there continues to be an ongoing supply of combat-traumatized soldiers to study. As noted by Coleman (2006), the overwhelming evidence proves that war is a disease that kills and maims, not just by tearing apart soldiers' bodies, but also by ravaging their minds. On March 20, 2003, U.S. forces crossed the Iraq-Kuwait border as Operation Iraqi Freedom (OIF) was launched (Marin, 2006). As the United States continues a military presence in Iraq and Afghanistan, it is also coming to grips with one of the products of war at home: a new generation of troubled veterans. Hoge, Auchterlonie, and Milliken (2006) emphasize that research with active duty personnel in Iraq and Afghanistan suggests that this new generation of veterans has high levels of PTSD and related mental health symptoms. Studies are demonstrating that troops who serve in Iraq are experiencing PTSD and other mental health problems on a scale not seen since the war in Vietnam (Robinson, 2004). Due to the magnitude of the PTSD numbers, no one agency or profession can provide the necessary mental health services. With this in mind, this article will focus on the estimated prevalence, symptoms and treatment considerations that rehabilitation and mental health professionals will be challenged with in addressing military-related PTSD.

Nature of the Business

PTSD is a malady that has been known by many names for centuries. For example, Homer noted behavioral changes in combatants in the Trojan Wars that would likely meet the current definition of PTSD (Taylor & Baker, 2007). Today, PTSD is listed as an anxiety disorder in the *DSM-IV-TR* (4th ed. text rev: DSM-IV-TR; American Psychiatric Association [APA], 2000). PTSD typically occurs in persons who have experienced a trauma in which they experienced, witnessed, or were confronted with an event involving actual or threatened death, serious physical injury, or a threat to one's physical integrity. The event that precipitates PTSD is usually considered outside the norm of human experience, such as intense combat. The person struggles to forget the traumatic event and frequently develops an emotional numbness and event-re-

lated amnesia. Often, however, there is a mental flashback, and the person re-experiences the painful circumstances in the form of intrusive dreams and disturbing thoughts and memories, which resemble or recall the horrific trauma (Bellenir, 2005).

Examples of war-zone stressors that have been experienced by returning veterans from Iraq and Afghanistan were described by Friedman (2006) as feeling helpless to alter the course of potentially lethal events; being exposed to severe combat in which buddies were killed or injured; having personally killed enemy combatants and possibly, innocent bystanders; being exposed to uncontrollable and unpredictable life-threatening attacks such as ambushes or roadside bombs; experiencing post combat exposure to the consequences of combat, such as observing or handling the remains of civilians, enemy soldiers, or U.S. and allied personnel; being exposed to the sights, sounds, and smells of dying men and women; and observing refugees, devastated communities, and homes destroyed by combat. According to Gerardi et al. (2008), soldiers are required to maintain a constant vigilance to deal with unpredictable threats such as roadside bombs, and to discern safe civilians from potential combatants. As reported by Hoge et al. (2004), 92% of soldiers and Marines serving in Iraq reported being attacked or ambushed; 86% reported seeing dead or seriously injured Americans, and 53% reported handling or uncovering human remains.

Estimates of PTSD

The measurement of incidence of PTSD in U.S. soldiers serving in combat-related activities continues to be difficult. Hoge et al. (2004) attempted to measure soldiers returning from Iraq. It was found that the incidence of PTSD in U.S. soldiers was directly related to the intensity of their wartime experience. The greater the number of firefights encountered, the greater the incidence of PTSD. Individuals unexposed to fire fights had a PTSD incidence rate of 4.5%, close to that of the general population. The rate more than doubled to 9.3% if a soldier saw significant combat once or twice. Three to five fire fights yielded an incidence of PTSD of 13%, and greater than five exposures brought the incidence rate to nearly 20%.

Since the military activities continue in the Middle East, the final diagnosis is incomplete. A comparison, however, can be made with a study of Vietnam veterans. The national Vietnam Veterans Readjustment Study (NVVRS; Kulka et al., 1990) was conducted to assess PTSD and other mental health problems following the Vietnam War. It was found that 31% of male and 27% of female veterans had a full diagnosis of PTSD at some point after the war. It was also discovered that 15% of male and 9% of female veterans experienced PTSD at some time of the study, over a decade after the end of the conflict.

Hoge, Auchterlonie, and Milliken (2006) conducted another study where they examined the mental health problems after returning from deployment to Iraq and Afghanistan. As with the first study, service personnel were more likely to report mental health problems (19.1%) after serving in Iraq than in Afghanistan (11.3%) or other locations (8.5%). In this study, conducted in between May 2003 and April 2004, 9.8% of those who served in Iraq indicated possible PTSD symptomology. Like previous studies it was again found that there was an association between the amount of combat exposure and PTSD.

Symptoms

The wars in Iraq and Afghanistan are producing a new generation of veterans at risk for the chronic mental health problems that result, in part, from exposure to the stress, adversity, and trauma of war-zone experiences. The DSM-IV-TR (APA, 2000) describes PTSD cases as being acute (symptom duration of less than three months), chronic (symptoms at least three months or longer) or with delayed onset (at least six months have passed between the traumatic event and the onset of symptoms).

As explained by Martenyi and Soldatenkova (2006), the elements of PTSD have been described as war neurosis, irritable heart, combat neurosis, and shell shock. During the Second World War, the symptoms were described as "combat neurosis." During the Korean and Vietnam wars, the focus was on combat-related gross stress reaction as described in the first edition of the *Diagnostic and Statistical Manual for Mental Disorders* (APA, 1952). Eventually, the term PTSD was introduced in the DSM-III (APA, 1980).

Individuals experiencing PTSD seem to experience the ordeal in the form of flashback episodes, memories, nightmares, or frightening thoughts especially when they are exposed to events or objects reminding them of the trauma. Andreasen and Black (2006) noted that, "The three major elements of PTSD include 1) re-experiencing the trauma through dreams or recurrent and intrusive thoughts, 2) showing emotional numbing such as feeling detached from others, and 3) having symptoms of autonomic hyperarousal such as irritability and exaggerated startle response" (p. 193).

Combat-related PTSD is often highly debilitating and can affect many areas of psycho-functioning. Veterans with PTSD re-experience their traumas in the form of haunting intrusive memories, nightmares and flashbacks, and have chronic difficulty modulating arousal. According to Southwick, Gilmartin, McDonough, and Morrissey (2006), many survivors cope with these

symptoms by living isolated and avoidant lives, self-medicate with alcohol and substances of abuse, and numb themselves to emotional experiences and relationships with family and friends.

The clinical presentation in PTSD is often quite heterogeneous, with symptoms varying in intensity from person to person. According to the DSM-IV-TR, the essential features of PTSD are the development of the characteristic symptoms following exposure to an extreme traumatic stressor. As noted by Albucher and Liberzon (2002), the person's response to the event must involve intense fear, helplessness, or horror, while the characteristic symptoms resulting from the exposure to the extreme trauma include persistent re-experiencing of the traumatic event (Criterion B), persistent avoidance of stimuli associated with the trauma and numbing of general responsiveness (Criterion C), and persistent symptoms of increased arousal (Criterion D). It was further pointed out by Albucher and Liberzon (2002) that the diversity of these symptoms (flashbacks, nightmares, hyperarousal, avoidance, numbing, anxiety, anger, impulsivity or aggression) suggest the involvement of multiple neurological systems. In addition, the disorder has a high degree of co-morbidity with other psychiatric disorders such as depression, substance abuse, and panic disorder. A common denominator for many returnees is the experience of having sustained anticipatory anxiety about potential threats to life and limb at any time or any place. It seems that for many, such a sustained combat-ready orientation to the environment results in a pervasive and uncontrollable sense of danger (Friedman, 2006).

It is being discovered that the clinical impact of military-related posttraumatic stress extends far beyond the more narrowly defined symptom criteria required by current diagnostic psychiatric systems. As explained by Vasterling et al. (2008), PTSD is also associated with significant functional impairment, including increased risk of somatic symptoms and health disorders, health-related changes in day-to-day functioning, diminished overall well-being and quality of life, psychosocial and interpersonal dysfunction, and occupational impairment. It seems that the costs associated with military-related PTSD are extremely high in terms of personal burden and societal costs.

Treatment Interventions

In the early days of PTSD treatment, physicians treated patients with common antianxiety and antipsychotic medications, mainly tricyclic antidepressants and benzodiazepines. In the last decade, SSRIs have been used on the mainstay of treatment. There are currently two medications, both considered antidepressants, that have received indication from the U.S. Food and Drug Administration (FDA) for the treatment of PTSD: sertraline and paroxetine (Resnick, Monson, & Rizvi, 2008). In addition, beta blockers have been used to calm the symptoms of episodic panic. According to Fischer and Reiss (2006), these drugs are very helpful for certain patients and not much help for others. Therefore, current PTSD treatment guidelines call for psychotherapy along with medication.

PTSD is a serious psychological condition that occurs as a result of experiencing a traumatic event. The symptoms that characterize PTSD are reliving the traumatic event or frightening elements of it. With this in mind, Wilson, Friedman and Lindy (2001) explained that the key element of the psychotherapy of people with PTSD is the integration of the alien, the unacceptable, the terrifying, the incomprehensible. It was further explained that life events initially experienced as alien, imposed from the outside upon passive victims, must come to be personalized and integrated as aspects of one's history and life experiences. The massive defenses, initially established as emerging protective measures, must gradually relax their grip upon the psyche, so that dissociated aspects of experience do not continue to intrude with one's life experience and thereby threaten to retraumatize an already traumatized victim. PTSD treatment often combines medication with therapy, but because the disorder is caused by emotionally traumatic events or circumstances, the treatment of choice is support combined with cognitive interventions (Gray & Zide, 2006). Treatment objectives suggested by Wilson, Friedman and Lindy (2001) are twofold. The first objective is the normalization of the stress response. The second objective is to facilitate a reduction or elimination of maladaptive psychological processes which include cognitive distortion, hyperarousal, hypervigilance, startle response, sleep disturbances, and affective instability ranging on a continuum from anger to depression to diverse forms of anxiety.

Published guidelines for the treatment of PTSD were described by Foa, Keene, and Friedman (2000) and the American Psychiatric Association (2004). As found in these guidelines, cognitive behavioral therapy (CBT) appears to be the treatment of choice. Two primary examples of CBT are exposure therapy and cognitive therapy.

Exposure therapy is essentially an extinction paradigm in which clients are repetitively exposed to intolerable traumatic memories through imaginal or in viva experience. Exposure therapy, also referred to as flooding, imaginal, in vivo, prolonged, or directed exposure, is a type of treatment that requires the client to focus on and describe the details of a traumatic experience in a therapeutic manner. According to Rothbaum and Schwartz (2002), the rationale for exposure therapy is that by continuing to expose oneself to a safe, yet frightening, stimulus, anxiety diminishes. The therapist must be careful to ensure that the

re-exposure experience will be therapeutic rather than traumatic. In some cases, it is difficult to recreate the trauma, and therefore imagined exposure (when the trauma and related emotions are systematically recreated through a conversation with the therapist) is more frequently used (Gray & Zide, 2006). With repeated therapist-guided exposure, the intent is for the patient to experience a progressive reduction in distress levels and thereby achieve clinical remission (Friedman, 2006). According to Rothbaum and Schwartz (2002), exposure therapy has more empirical evidence for its efficacy than any other treatment developed for the treatment of trauma-related symptoms. In several controlled studies, prolonged exposure techniques have been demonstrated to be effective in the treatment of PTSD (Foa et al., 1999, Tarrier, et al., 1999, Foa & Meadows, 1997). Nevertheless, studies show that a considerable number of PTSD patients, about 25% to 45%, still fulfill diagnostic criteria for PTSD at the end of treatment indicating that exposure therapy may cause improvement, but not to recovery in all cases (Van Minnen, Arntz, & Keijsers, 2002).

Cognitive therapy focuses on the trauma-related erroneous automatic thoughts associated with PTSD. Examples of erroneous cognitions include perceiving the world as dangerous, seeing oneself as powerless or inadequate, or feeling guilty for outcomes that could not have been prevented. Through cognitive restructuring, the therapist challenges such distorted beliefs. This enables patients to overcome the intolerable trauma-related emotions such as guilt and shame (Friedman, 2006). Cognitive therapy for PTSD has generally taken two forms. According to Resick, Monson and Rizvi (2008), one form is more present-focused and typically uses daily diaries or monitoring forms to elicit thoughts that the client has recorded during the week. These homework sheets form the basis of the cognitive restructuring training that takes place during treatment through the use of teaching and Socratic questioning. This enables clients to identify and dispute their unrealistic or exaggerated thoughts. Resick, Monson, and Rezvi (2008) explain the other form of cognitive therapy as a method that is more trauma-focused and constructivist. The client is helped to focus on the particular meanings that the event has for them and how their interpretation of the event contradict or seemingly confirm previously held beliefs about themselves and others. Examples of trauma-focused cognitive therapy are studies by Resick, Nishith, Weaver, Astin, & Feuer (2002) or Tarrier and colleagues (1999).

Another treatment that has received considerable attention is eye movement desensitization and reprocessing (EMDR; Shapiro, 1989). It has become an established treatment modality for PTSD, and has been shown to be effective in comparison to behavioral exposure treatments. In EMDR, clients are instructed to imagine a painful traumatic memory and associated negative cognitions (such as guilt or shame) while moving their eyes from side to side by visually tracking the therapist's finger (Friedman, 2006). EMDR may be considered a special application of imaginal exposure, because it uses the repeated guided visual imagery of the traumatic memory; however, it has been considered unique because it involves the elicitation of rapid, saccadic eye movements during the imaginal exposure session and these movements are considered to be an important treatment element (Zoellner, Fitzgibbons & Foa, 2001). It has been suggested that the eye movements during the procedure fits in a model of respondent conditioning, emotional interference with learning, and operant conditioning. In other words that conditioning and distraction play a major role during the therapy (Dyck, 1993). Although EMDR continues to be a controversial therapy its research is growing. Several randomized controlled trials have been published over the last few years that suggest the EMDR is effective in reducing PTSD symptoms. According to the meta-analysis by Bradley et al. (2005), more than half of the patients completing PTSD treatment with EMDR show improvement.

Treatment Considerations

As rehabilitation and mental health professionals take on the serious work of providing PTSD treatment to military returnees from Iraq and Afghanistan, considerable preparation will be required. It will be helpful if service providers follow the guidelines for the treatment of PTSD, such as those presented by Foa, Keane and Friedman (2000). For example, in the section dedicated to treatment issues, potential practitioners are advised to focus on five specific concerns. First, therapist training is covered. Individuals should be professionally trained and licensed. Second, choice of treatment settings should be determined during the initial diagnostic evaluation. Most treatments for PTSD take place in an outpatient setting, such as psychiatric or psychological clinics and counseling centers. However, an inpatient setting may be required when the client manifests a significant tendency for suicidality or severe comorbid disorders. Third, a comprehensive diagnostic evaluation should be conducted to establish the presence of PTSD. Fourth, the phenomenon of treatment resistance has been quite evident. Despite the progress that has been made in the treatment of PTSD, many veterans may not benefit from the first line of treatment. Finally, readiness for treatment may be an issue. Some military returnees may assume that the symptoms will dissipate with time; they may feel that nothing can help them or that there is an element of shame surrounding their traumatic experiences.

Concluding Remarks

It has been known for some time that PTSD and other mental illnesses are a predictable result of war. A landmark study published in the *New England Journal of Medicine* related to U.S. troops in Iraq, for the first time, reported this hidden cost of war in real time and projected a continual price for Americans in the future (Hoge et al., 2000). Although most military personnel returning from recent deployment will readjust successfully, a significant minority will exhibit PTSD or some other psychiatric disorder. According to Hoge, et al. (2004), 15% to 17% of returning veterans are experiencing PTSD. This means that literally thousands of military returnees are returning home with a serious mental disorder that not only affects the soldier, but his or her family system as well. As noted by Moon (2006), "Now more than ever, counselors need to educate themselves about PTSD treatment and to be prepared to offer innovative individual and family therapy to military families" (p. 63). Military returnees from war in the Middle East must be helped to cope with their traumatizing experiences. In the words of Friedman (2006), "Treatment should be initiated as soon as possible, not only to ameliorate PTSD symptoms but also to forestall the later development of comorbid psychiatric and/or medical disorders and to prevent interpersonal and vocational functional impairment" (p. 592).

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Biography

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