

The Impact of Posttraumatic Stress Disorder in Military Situations

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© The constant threat to life and gruesome sights and sounds of war take their toll on the soldier psychologically as well as physically. A significant number of war veterans suffer from a wide range of debilitating psychological symptoms that vary in duration. For some the symptoms are transient, while for others profound and prolonged psychological and somatic sequelae manifest in the form of posttraumatic stress disorder (PTSD) and other comorbid conditions. This article reviews current understanding regarding combat stress reaction—often the first indicator of psychological breakdown—and posttraumatic sequelae. The longer-term detrimental consequences of PTSD and the impact of secondary traumatization, reactivation, and delayed-onset PTSD are also addressed.

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War is the ultimate in human aggression. In addition to the destruction of life, property, and culture, it often inflicts a less visible but deep and enduring toll in terms of psychological damage. Combatants are naturally the hardest hit. In constant danger themselves, they witness the injury and death of friends and enemies and all the gruesome sights and sounds of slaughter. They struggle with loneliness and isolation and with a more tangible deprivation of food, drink, and sleep. The enormous destructive power of modern weapons and the uncertainties of modern guerrilla warfare add to the already massive stress of war.

Soldiers are expected to inflict the same brutal death and injury on the enemy. These stresses of the battlefield are bound to give rise to anxiety. Anxiety is a perfectly normal response to imminent threat and in moderate levels is even functional in combat in that it gives rise to vigilance when it is needed. At the same time—as observed in World War II and repeatedly confirmed since—all but a small percentage of combat troops are too paralyzed by anxiety to fire their weapons during battle. Most experience other stress-induced symptoms. Nonetheless, the vast majority of soldiers remain psychologically intact despite the awesome destructiveness of modern warfare. They continue to function as soldiers, are not a danger to themselves or their fellow comrades, and do not insist on being evacuated.

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COMBAT STRESS REACTION

A small, but not insignificant, percentage of soldiers are overwhelmed by their anxiety. They perceive the threat as intense, prolonged, and uncontrollable and feel totally vulnerable and powerless. These perceptions mark the psychological breakdown known as "combat stress reaction" (CSR), "shell shock," "combat fatigue," and "war neurosis," among other terms. A CSR occurs when a soldier is stripped of his psychological defenses and feels so overwhelmed by the threat that he or she becomes powerless to counteract or distance himself or herself from it and is inundated by feelings of utter helplessness and anxiety. In this state, the soldier is a danger to self and unit and is no longer able to perform military duties.

Case Example

Mr. A served as a medic in the 1982 Lebanon War at the age of 21 years. On the fourth day of fighting, the convoy in which he was riding came under attack. Planes overhead dropped their bombs, hitting one vehicle after the other. In the din of the explosion, the screams of the wounded filled the air, as did the smell of the gunpowder and the burnt flesh. There were many casualties. The wounded began pouring in while the battle was still raging. Mr. A soon became engrossed in treating them. He was too busy to think of eating or drinking or of the danger he was in. When the doctor he was working with was hit and died in great pain, Mr. A felt that he could no longer go on. He was overcome by tiredness, his legs became heavy, he sat down and stared into space, and he did not even try to take cover. Mr. A ceased to function; he had broken down. In military terms, he had sustained a CSR.

Symptoms of CSR

Combat stress reaction is characterized by a large range of polymorphic and labile symptoms. Psychosomatic symptoms range from loss of bladder and bowel control, trembling, stuttering, and vomiting to conversion reactions such as blindness and paralysis without organic causes. Cognitive symptoms include confusion; problems with perspective, memory, and judgment; and disorientation. In extreme cases, soldiers may not know who or where they are. The main emotional symptoms are paralyzing anxiety and deep depression, which often alternate. The behavioral symptoms are the manifestations of these emotions: great agitation on one hand and apathy and withdrawal on the other. Some of the symptoms are quite bizarre; some victims tear off their uniform and run amok on seeing the enemy. Others may become frozen in their tracks, refuse to shower, or cling to a piece of clothing or other object. These manifestations change as rapidly as the emotional states that underlie them and can be quite perplexing to the observer.

These symptoms signify the soldier's total inability to continue to perform battlefield duties. With minor variation, this clinical picture has been repeatedly observed at different times, in different armies, different wars, and different cultures. Nonetheless, the great variability and lability of this reaction make it difficult to arrive at an agreed clinical definition. For practical purposes, armies have used a functional definition: "Combat stress reaction consists of behavior by a soldier under conditions of combat, invariably interpreted by those around him as signaling that the soldier, although expected to be a combatant, has ceased to function as such."¹

The multiplicity and variability of the symptoms, both within a single soldier and from casualty to casualty, make it very difficult to capture the elusive nature of CSR. The prevailing definition is general and functional rather than clinical. Despite its seemingly simple functional definition, and sometimes bizarre manifestations, CSR is extremely difficult to identify. Conduct on the battlefield is generally disorganized and not reflective of everyday life. For example, loss of bladder and even bowel control is quite common. Moreover, those who would make the identification—the afflicted soldiers, commanders, and fellow comrades—are themselves caught up in the stress and anxiety of the situation, and their judgment is unreliable.

Extent of the Problem

The reported prevalence of CSR varies considerably, both within and among wars.² Rates in World War II ranged from 10% to 48%. In the Vietnam War, rates were substantially lower, with official figures during the war at about 1.2%. In the Yom Kippur War, the official count in Israel was 10% of those wounded in action,³ although in some units it was as high as 70% of the wounded. In

the Lebanon War, the official figure was 23% of those wounded in action¹ (i.e., 1 of every 4 war casualties was a psychiatric casualty).

These figures have been challenged and underestimate the problem. The growing number of cases of delayed-onset PTSD following the Vietnam War led to charges of misdiagnoses, denial, and underreporting. Similar charges were made with regard to the initial figures for CSR in the Yom Kippur War, in which the rate was closer to 40% of the wounded. The variation derived from differences in the identification and counting of CSR as well as from differences in the dimension of combat stress. The reported rates clearly indicate that CSR is an inevitable and common consequence of war. Most armies recognize it as a major source of personal loss, which can contribute to an army's defeat. In 1942, evacuation due to psychological breakdown alone outnumbered the manpower that the U.S. army could mobilize at the time.

Course of CSR

CSR can be a transient episode for some, but for others it marks the beginning of a process of posttraumatic decline. This process has been likened to the flooding of a piece of land; where the floodwater has receded, the land reemerges. The preflood water will sometimes reappear, reinforcing the feeling that any damage can be corrected. Sometimes the flood leaves behind heavy destruction, causing feelings of helplessness and loss. Such is the expression of a traumatic event.

Sometimes, when the stress recedes, the injured recover quickly, and the emotional trauma becomes a transient life episode. At other times, the trauma is accompanied by impairment that is difficult to remedy. In still other cases, there is no obvious recognizable emotional injury subsequent to the traumatic experience, only slight impairment, which is followed by seemingly rapid recovery. In such cases, the soldier's psychological apparatus may be more vulnerable to subsequent stresses both within and without. Again the flood metaphor is helpful. Sometimes, it may be impossible to see the immediate harmful consequences of the flood. Later, if the area is exposed to further internal or external stressors, the structures and foundations that have been undermined by the flood will collapse.

At the end of a war, the debilitating effects of combat stress may abate in some cases. In others, profound and prolonged psychological and somatic sequelae occur in the form of PTSD and other comorbid conditions. The posttraumatic decline is characterized by the onset or exacerbation of somatic illnesses and impaired functioning. Following up Israeli casualties of the 1973 Yom Kippur War and the 1982 Lebanon War, we clearly demonstrated that for many traumatized soldiers, psychological breakdown on the battlefield marks the beginning of a lifetime of stress and impairment.^{1,3-6}

Table 1. Percentage of War Casualties Developing Postwar Symptoms of Posttraumatic Stress Disorder (PTSD)^a

Duration of Follow-Up (y)	CSR ^b (%)	Controls ^c (%)
1	61	16
2	56	19
3	43	9
6	41	12

^aData from Solomon.¹ Abbreviation: CSR = combat stress reaction.

^bVeterans who sustained CSR on the battlefield and later developed PTSD.

^cVeterans who did not sustain CSR on the battlefield and later developed PTSD.

POSTTRAUMATIC SEQUELAE

Very few empirical investigations assess posttraumatic sequelae in identified CSR casualties. The results of a 3-year follow-up of all treated Israeli CSR casualties of the Lebanon War revealed that 61% of identified CSR casualties suffered from PTSD 1 year later. At 2 years, 56% had PTSD, and at 3 years, 43% (Table 1).¹ Nearly half of those soldiers who sustained a CSR on the battlefield were still suffering from pervasive diagnosable disturbances 3 years after their participation in battle, despite treatment. Longer follow-up at 6 years after the Lebanon War⁷ and 18 years after the Yom Kippur War⁸ revealed lower, yet substantial, rates of PTSD. The posttraumatic residues were not limited to PTSD. These men also suffered from elevated levels of comorbidity, with particularly high rates of depression, anxiety, and obsessive-compulsive disorder, among others. In American traumatized veterans, high rates of drug and alcohol abuse were also reported.⁹

Many PTSD symptoms were implicated in considerable functional impairment, including problems with concentration, memory, and increased irritability. These factors severely impaired work performance. Detachment, alienation, avoidance, easily aroused anger, and sexual difficulties clearly impaired the functioning of husbands and fathers. Elevated rates of somatic complaints, deterioration in health, and, among prisoners of war, accelerated aging were observed.¹

Combat-induced PTSD also emerges among veterans who have not sustained CSR on the battlefield. Studies we conducted of veterans who participated in the Lebanon War revealed PTSD diagnoses in as many as 16% of these veterans during the first year after Lebanon, 19% the second year, and 9% the third year.¹ These figures point toward a detrimental impact of war on soldiers who survive the immediate stress of combat without a visible breakdown and resume their lives without seeking assistance.

It is important to note that these afflicted soldiers did not seek help. Unfortunately, it seems that many of them were not aware that they had a disorder, or believed that the symptoms were a natural and inevitable outcome of their horrific experiences. Others probably did realize their

plight, but were reluctant to seek help. It is all too likely that these silent PTSD veterans are a mere fraction of a much larger number of psychiatric casualties of war whose distress is similarly unidentified and untreated. In one sample, as many as one third of Vietnam veterans who suffered from PTSD 15 years after the end of the war had never sought help.¹⁰ Veterans with combat-related PTSD have been studied in an attempt to identify reasons for this behavior. In a study of 716 Israeli veterans,^{7,11} we found that a relatively lower symptom severity, higher perceived self-efficacy, and a larger number of prewar negative life events were most frequently associated with a lack of need to seek treatment compared with individuals who sought therapy.

SECONDARY TRAUMATIZATION

The deleterious effects of trauma are not limited to those who are exposed and afflicted by it directly. Psychic trauma may be likened to a stone thrown into a pool of water; it creates ripples that reach not only the victims themselves, but also those who are close to them. The terms *secondary traumatization* and *vicarious victimization* have been used to indicate that others who come into close contact with a trauma victim may experience considerable emotional upset and may themselves become indirect victims of the trauma. Many debilitating PTSD symptoms are not only stressful for the casualty, but may also have a direct bearing on close friends and relatives.

The detrimental effects of war trauma on significant others have been observed among spouses and children of both U.S. veterans who served in Vietnam^{12,13} and Israeli veterans who fought in Lebanon.¹⁴ Especially relevant are the symptoms that interfere with the veterans' intimate relationships. These include reduced involvement, psychic numbing, diminished interest, sexual difficulties, and feelings of detachment, alienation, and estrangement. PTSD veterans are often withdrawn, edgy, and depressed and may have unpredictable outbursts of rage and aggression. These severe symptoms may have considerable implications for the well-being of the spouse.

Previous studies have reported that the wives of PTSD veterans are subjected to increased physical violence,¹⁵ as well as emotional and verbal abuse. The pressure of the relationship drives many to report feeling ready to have a nervous breakdown.¹²

My colleagues and I¹⁴ have shown that both CSR and PTSD are associated with increased psychiatric symptoms, impairment in self-esteem, more loneliness, and less satisfaction in afflicted Israeli veterans' marital and/or family relations. Marital relations appear to be particularly vulnerable to the negative consequences of traumatic combat experiences, with distress levels in wives virtually paralleling those of their husbands.¹⁴ Among PTSD casualties, those with antecedent CSR suffered from more intense and severe PTSD than those without a history of

CSR. The wives of PTSD and CSR veterans reported greater levels of distress and impairment than wives whose husbands suffered from PTSD but had not broken down on the battlefield.

The findings of this study¹⁴ are consistent with the concept of secondary traumatization; the veterans' immersion in traumatic memories and withdrawal from everyday life can leave their spouses feeling isolated and vulnerable to various psychological and somatic conditions. In some cases, it has been reported that wives "identify so strongly with their men that they have authentically internalized their partners' stressor imagery."¹¹ Thus, they begin to experience the same feelings and mimic the behavior of their traumatized husbands.¹²

The impact of combat trauma on the relationship of war veteran fathers with their children has been investigated in a recent assessment for the Israeli Ministry of Defense.¹⁶ Traumatized veterans were asked how they perceive their role as parents and to what extent they feel they can provide the care and support their children need. The results were distressing: 80% reported moderate-to-severe verbal violence toward their children, 26% reported severe physical violence, and 32% reported severe difficulties meeting physical needs. Only 56% reported meeting emotional needs.

These and other studies indicate that the negative changes in personality and behavior experienced by combat veterans with CSR and/or PTSD often have a direct impact on the feelings and behavior of those around them, particularly their spouses. If this suffering is ignored, it will likely exacerbate the veterans' own distress. Conversely, treatment that does not focus exclusively on the individual veteran but also includes his spouse is likely to assist the veteran's own recovery.

REACTIVATION

It seems that even when veterans with CSR outwardly recover, they remain more vulnerable than other veterans to subsequent stress. They are more likely to break down in a subsequent war or to suffer adverse reactions to stressful life events. Such events, especially those reminiscent of the original trauma, lead to the reactivation or exacerbation of the original CSR. Reactivated symptomatology has been observed when traumatized veterans attend war memorials or other public ceremonies. When reactivation occurs, symptoms tend to be more intense and recovery more difficult than following the first episode.¹

DELAYED OR LATE-ONSET PTSD

Some soldiers who apparently function well in combat and are asymptomatic develop combat-related stress disorder at a later stage. These soldiers, who have delayed or late-onset PTSD,^{17,18} were widely recognized for the first

time after the Vietnam War. The official CSR rate in that war was among the lowest in recorded military history.¹⁹ However, in the following years, the steadily growing numbers of veterans with war-related stress reactions became a major public health problem. The National Vietnam Veterans Readjustment Study⁹ estimated "current" rates of PTSD and partial PTSD in these veterans of 15.2% and 11.1%, respectively. This study did not, however, examine time of onset and so cannot provide accurate information on delayed-onset PTSD.

Some clinicians have questioned the validity of the diagnosis, claiming that malingering, fictitious symptoms, alcohol and drug abuse, and precombat psychopathology can be mistakenly diagnosed as delayed PTSD. There is also some confusion as to whether it is the onset or the identification of PTSD that is delayed.

Fifteen years after the Lebanon War, follow-up of soldiers has revealed that the number of delayed PTSD cases is triple that of the immediate onset and is still growing. Closer scrutiny of these cases 5 years after the war indicated, however, that only 10% of these individuals could be diagnosed as suffering from genuine delayed-onset PTSD (an asymptomatic latency period of at least 6 months, according to DSM-III criteria). Most of the remainder had delayed seeking help following either chronic PTSD or exacerbation of subclinical PTSD.²⁰

In sharp contrast to late-onset PTSD are reactivated and acute cases that progress to chronic PTSD. The symptoms of delayed PTSD tend to be less intense, functioning less impaired, and recovery more rapid than in reactivated and chronic cases. In view of the considerable prevalence of PTSD among CSR casualties, the question that naturally arises is what accounts for it. That is, why does CSR consist of transient episodes for some, but a posttraumatic avalanche for others? What are the factors involved, and what is the relative contribution?

FACTORS IMPEDING OR PROMOTING TRANSITION FROM ACUTE STRESS REACTION TO CHRONIC PTSD

Numerous factors and complex interactions are implicated in the perpetuation of PTSD in CSR casualties. In a study of 104 Israeli soldiers diagnosed with CSR during the 1982 Lebanon War,⁵ we found that specific combat experiences and immediate reactions to these experiences, as well as the extent of the CSR episode, were strongly associated with the subsequent development of PTSD. Psychological symptoms were predicted primarily by combat experiences, whereas postwar functioning was predicted mainly by prewar factors.

Pretrauma vulnerability has a considerable impact on the course of CSR and development of PTSD. Sociodemographic risk factors in particular, such as education, income, age, and marital status, appear to play a relatively

large part in the coping of prisoners of war and traumatized soldiers. Other significant factors are family history, poor premilitary adjustment, life events including history of trauma, precombat adjustment to the military, and biological factors.

Variables that are considered of utmost importance in military psychiatry are related to the stressor, for example, the duration and intensity of combat stress. In addition, several characteristics of combat have been shown to be especially pathogenic. These include witnessing or participating in atrocities and surviving a situation in which someone close was killed—a near-miss situation. The type of battle, in terms of passivity, activity, unit cohesion and leadership, peer support, and morale are also considered extremely important by mental health professionals in the military, as is immediate reaction to impact. Reactions include intense paralyzing anxiety, disassociation, and severe depression.

Numerous personality attributes have been hypothesized to be implicated in the genesis of CSR and PTSD. There is some empirical evidence supporting the implications of psychological attributes such as coping style, attribution style, locus of control, hardiness, and attachments, among others. Finally, homecoming and community support have consistently been shown to either impede or promote recovery.

SUMMARY

This overview covers the most salient, but clearly not all of the pretraumatic, peritraumatic, and posttraumatic factors that are implicated in the perpetuation of PTSD among traumatized combatants. In epidemiologic terms, we are faced with a web of causation, consisting of complex synergistic and antagonistic interactions among these variables. Systematic investigations of CSR casualties explain only around 30% of the variance. This leaves us with a great challenge for future research.

CSR, often followed by lifetime PTSD, is the psychological price that some soldiers pay for the proclivity of the human race for war. The price is too high for too many. It seems that there is no way that men can kill and maim, see their friends killed or maimed, and fear being killed or maimed themselves without at least some of them breaking down. The best way to prevent combat-induced psychopathology is to prevent war. Although mental health professionals can not stop the violence, we can fall back on our other distinction, our minds, and our ability to learn and understand. With newly gained knowledge we may be able to mitigate, to some extent, the trauma-related psychological toll and in a small way improve the quality of life of those who are psychologically injured by it.

To date, no single treatment has proved effective in alleviating the suffering of the large numbers of combat and other PTSD victims who are unable to lead normal, fulfilling lives. The need for more effective pharmacologic interventions is made ever more pressing as each war and manmade or natural disaster leaves behind a growing population who have succumbed to the psychological pressures of their traumatic experiences.

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