Military and Disaster Psychiatry

Nell Greenberg, King's College London, London, UK

© 2018 Elsevier Ltd. All rights reserved.
This article is a revision of the previous edition article by D.M. Benedek, R.J. Ursano, volume 14, pp. 9850–9857, © 2001, Elsevier Ltd.

Abstract

Military and disaster psychiatrists assist both trauma-exposed people and organizations who have experienced extreme circumstances that have the potential to damage mental health and impair organizational, community, and individual functioning. While most trauma-exposed individuals remain psychologically healthy in the longer term, there is a strong evidence base showing that high-quality social support and experiencing a low, but not no, pressure environment are the most ideal conditions to support recovery. Ensuring that basic needs such as provision of shelter and food are met are also important prerequisites to a good state of post-conflict or post-disaster mental health.

Individuals exposed to traumatic events are at increased risk of suffering from a range of mental health conditions including, but not limited to, posttraumatic stress disorder (PTSD; NICE, 2005). While the definition of a traumatic event has changed as new evidence has emerged, our current understanding includes a potential to affect people who are directly or indirectly exposed to an event as well as those who indirectly learn of a close relative/friend's trauma. Importantly, current diagnostic guidelines specifically acknowledge that PTSD may follow repeated or extreme indirect exposure to aversive details of events that occur in the course of professional duties (APA, 2013). This criterion specifically acknowledges that some workers are at particular, and predictable, risk of developing trauma-related mental health problems as function of their employment. Indeed, there is a wealth of evidence that as well the innocent victims of disasters, many occupational groups, including military personnel and emergency services personnel, are in substantially higher levels of trauma-related psychopathology than the general population (Skogstad et al., 2013).

Military and disaster psychiatry has evolved to take account of the cognitive, emotional, and potential neurobehavioral consequences of trauma exposure including human-made events (e.g., wars and terrorist attacks) and natural disasters (e.g., earthquakes or accidents). Mental health care interventions in military operations, and in response to disasters, generally follow a preventative medicine approach. That is to say that the most ideal occurrence is for individuals to avoid the development of mental health difficulties after exposure to traumatic events (primary prevention); where impairing symptoms do develop it is best to detect incipient mental health problems rapidly so that effective early intervention can be provided (secondary prevention); and where individuals do go on to develop formal mental health conditions then evidence-based treatment should be provided in a culturally-sensitive manner by appropriate trained and experienced mental health professionals (tertiary prevention). Providing an evidence-based preventative approach to the prevention of traumatic stress related conditions is likely to be a legal responsibility for trauma-exposed organizations, such as the military, media companies, war correspondents, or emergency responders (UN/PT, 2014). However, the responsibility for protecting the mental health of individuals involved in disasters is less clear and the delivery of disaster psychiatry is often a result of a complex interplay of agencies including regular health care providers, local charities, nongovernmental organizations (NGOs), and local members of the community who 'pull together' in the aftermath of an incident.

Mental health care interventions delivered in theaters of war or within disaster zones are likely to differ from those delivered in traditional community- or hospital-based practice. This article examines the approaches of military and disaster psychiatry, and the cognitive, emotional, and behavioral responses associated with the events that create these environments. The principles of prevention, detection, and treatment of posttraumatic illness on the battlefield and in the aftermath of disaster are outlined. Finally, emerging cultural, ethical, and possible future technological challenges to the practice of military and disaster psychiatry are discussed.

Introduction

Both war and disaster have the potential to create an atmosphere of chaos and tragedy. Individuals who operate in these environments may experience both expected stresses, such as seeing dead bodies, and the effects of injuries in local population, and potentially among colleagues, and also a range of less predictable pressures such as being called on to make rapid decisions that have the capacity to expose individuals to moral injury or injury. For instance, individuals may be forced to choose to save their own life at the expense of someone else losing theirs. However, there is considerable evidence that while exposure to traumatic stresses may be inevitable, personnel appropriately prepared or trained to operate in these environments, may be less at risk of psychological injury than those who simply caught up in the chaotic nature of war or disaster (Rubin et al., 2005). Military and disaster psychiatry professionals have to address core demands in, or resulting from, working within nontraditional environments and in mass casualty situations, where resources are overwhelmed. Providing care in such environments is multi-professional relying on contributions of psychiatrists, mental health nurses, psychologists and social workers, other health care
workers, social scientists, epidemiologists, and emergency responders such as police and firefighters. There is growing evidence that the psychological resilience of teams that operate in these environments (e.g., military forces, charitable organizations, and media) is more a function of the bonds between individuals (i.e., camaraderie and leadership) than team members than the psychological coping styles of the individuals concerned (Jones et al., 2012).

Any overview of military and disaster psychiatry begins with an examination of the consequences of traumatic situations such as disasters and wars for communities, and individuals, the provision of health and health care responses to these traumatic experiences.

The War and Disaster Environment

Disasters have the capacity to overwhelm a community's capacity to respond to them. The distinction between natural disasters (e.g., earthquakes) and human-made, or technological ones, such as explosions, or train derailments, has become increasingly difficult to make. For example, much of the death and destruction from an earthquake may be due to poorly constructed housing or the failure of emergency services to respond in a timely and effective fashion. Thus, the vast majority of disasters are at some human element to them particularly in terms of those who are affected and in the response. For example, communities may have governments or commercial companies for failing to respond to a traumatic event in a timely and effective manner even when an incident was truly unforeseeable. From a psychological standpoint, it may be helpful to understand the inevitability, and impact, of the blame by those affected by the disaster toward statutory authorities (e.g., councils, governments, and emergency responders). In the main, blame, however well placed impedes psychological recovery of those affected by an event.

Potential stressors in disaster environments include exposure to the dead or injured, threats to life, loss of loved ones or property, and/or physical injury. Although military forces, when commanded to do so, assist affected communities and provide a relatively safe environment for those affected by traumatic events, such safety may often be short lived.

Frequently, those so affected by war or disasters are reluctant to seek help for mental health difficulties (Ono et al., 2013) and thus do not receive treatment for psychiatric symptoms. Although traumatic events themselves can be short lived, for example, an earthquake may be concluded in seconds, the consequential traumatic experiences may continue for weeks or months and, if not managed well or treated, possibly years. For both military personnel and civilians in war or ongoing disaster environments, exposure over time may include anticipated or entirely unexpected life-threatening experiences followed by daily life in an austere and disrupted environment.

In very general terms, post-disaster emotional and behavioral responses occur in four broad phases. The first, immediately following a disaster, consists of strong emotions including feelings of disbelief, numbness, fear, and confusion for those involved with the event; all are quite normal emotional responses to abnormal events. The second phase, which usually lasts from a week to several months, is accompanied by the appearance of assistance from outside agencies and communities. Adaptation to austere environments as well as immune symptoms (unhinged thoughts and feelings accompanied by hyperarousal) occur during this phase and physical (somatic) symptoms such as fatigue, dizziness, headaches, and nausea may develop. Anger, irritability, apathy, and social withdrawal are often present, and these cognitive and emotional responses may be misdiagnosed. For instance, those affected by the incident(s) may begin to feel resentful or angry toward those who they perceive as having responsibility for responding to the incident. The third phase of a trauma response is often marked by increased feelings of disappointment and resentment when hopes for aid and restoration are not met. These feelings may lead to the sensation of community being weakened as individuals increasingly focus on their personal needs rather than the needs of the community. The final phase, which is termed reconstitution, may last for years. During this period, people rebuild their lives, make homes, and find work using available social supports. Individuals may progress through these phases at various rates. Failure to navigate through this reconstructive phase can lead to persistent symptoms.

While PTSD is a relatively new diagnosis first appearing in the Diagnostic and Statistical Manual Volume Three in 1984, the effects of disaster and war have been recognized for many years. For instance, the emotional consequences of disaster are described in the Iliad, and references to the terror induced by the attack of the hero are diverse. Ancient Greeks attributed epidemic illness to Apollo’s wrath after the desecration of his temple.

The Mental Health Consequences of Military Operations and Disasters

Military and disaster psychiatry professionals have to understand the multitude of behavioral reactions to the spectrum of stressful events or stressor. While there is a good evidence base concerning risk factors for the development of post incident mental health problems such as PTSD, professionals working in this area of psychiatry also have to understand how to distinguish normal reactions from those which indicate a need for professional services. This skill is often lacking in health care professionals who do not have expertise in this area. The precipitating stressor for PTSD involves a threat to the physical integrity of self or others leading to, often short lived, distress symptoms. Often those exposed to traumatic events experience helplessness, horror, or fear during the event itself although these reactions may well be absent in those who are prepared for the traumatic event or who have experience relevant to their actions during the event itself. For instance, war journalists may run toward the sound of a shell in a purposeful way in order to get their story or soldiers who are shot at may respond purposefully in accordance with their training.

However, even among trained individuals, there is a characteristic distress response which may not all trauma-exposed individuals may experience. This response consists of symptoms that involve (1) reliving the original event (e.g., nightmares, disturbing vivid recollections, or fear when exposed to events resembling the original trauma);
(2) cognitive or behavioral avoidance of events or situations that somehow resemble or symbolize the original trauma; (3) symptoms of increased vigilance, such as exaggerated startle, outbursts of anger, or other evidence of hyperarousal; and (4) negative changes in cognitions and mood, such as numbing of emotional feelings for others and highly negative appraisals of the future. If these symptoms of severe distress persist for over a month, then a diagnosis of PTSD may be appropriate if the symptoms are associated with significant functional impairment.

The symptoms of impending PTSD often occur within the first month after the trauma, and if severe may be termed acute stress disorder (ASD). PTSD itself is not diagnosed until at least a month after the trauma and there is a strong evidence base suggesting that the majority of cases of PTSD occur within the first 6 months after a traumatic event. In a minority of cases PTSD may be diagnosed for the first time after six or more months after the index event; this is termed delayed onset PTSD. There is considerable controversy persists regarding the diagnostic validity of delayed onset PTSD with some experts suggesting that delays in diagnosis result from delayed presentation rather than true delayed onset. In some cases, delay in onset may result from people who have experienced traumatic events remaining in a high state of alert and camaraderie after traumatic events. Such situations may be found among military personnel who experience traumatic events on a prolonged deployment and only find that they begin to think about the traumatic experiences once they have returned home or in communities where experiences disaster but are initially highly supportive and functional as they strive to survive in the aftermath and thus reestablish the sense of normalcy. In these two examples it is quite understandable that proper processing of the traumatic event itself may be delayed, and thus occasionally may the onset of the disorder.

Another important skill which military and disaster psychiatrists need to demonstrate is an understanding of disabling distress reactions that may occur in response to less significant trauma such as the unexpected loss of a key interpersonal relationship or loss of a job. Individuals, who experience significant but non-traumatic events can present clinically within patterns of symptoms that are similar to those described by PTSD or ASD. However, the correct diagnosis in these cases is an adjustment disorder, which is characterized by maladaptive behavioral and/or emotional responses to a diverse array of stressors. Other psychological conditions may also follow exposure to intense stressors such as conversion disorder that may be diagnosed when someone develops unexplained symptoms or deficits affecting voluntary motor or sensory function (e.g., sudden partial paralysis of the hand in troops) without demonstrable neuropsychological injury. Bereavement is a normal grief reaction after the death of someone who is valued or loved, may also occur in response to losses incurred during war or disaster. Other distress responses to war or disaster include anxiety and depressive syndromes, and antisocial behaviors that are not themselves related to frank mental disorders (such as acts of retributive violence or criminal behavior that may amount to war-related atrocities). Alterations in health-related behavior (e.g., misuse of tobacco, drugs, or alcohol and risk-taking behavior) may also develop after exposure to disaster or war. Taking a careful history including gaining a detailed understanding of pre-incident normal behaviors and attitudes as identifying relevant risk factors (e.g., history of childhood adversity and prior history of mental illness) as well as details of the traumatic event(s) and post-event reactions will allow military and disaster psychiatrists to decide upon the correct diagnostic label and treatment plan.

**Battle Fatigue and Combat Stress**

The terms 'battle fatigue' or 'combat stress' are broad and encompass a variety of responses to operational stressors but are not specific diagnostic constellation of symptoms such as major depressive disorder or PTSD. A wide range of physical and emotional symptoms and signs can occur among individuals with either condition including physical symptoms gastrointestinal distress, tremulousness, anxiety, perceptual disturbance, a sense of unreality, and a dazed look (i.e., 'thousand-yard stare'). Battle fatigue may be used to describe combats who have exhausted physiological and psychosocial coping mechanisms with the intense combat experience whereas combat stress may be used to describe a more classic ASD reaction in the aftermath of particularly intense periods of fighting. It is noteworthy that minor injuries, infections, starvation, heat exhaustion, and cold injuries may decrease the coping resources of a combatant and predispose them to develop formal mental health difficulties.

**Medically Unexplained Physical Symptoms**

War historians have observed that medically unexplained physical symptoms (MUPS) are common sequelae of combat since at least the US Civil War. Syndromes such as 'soldier's heart' and illnesses characterized by physical symptoms attributed (by sufferers) to war-related exposure to Agent Orange or the pesticides and medical countermeasures as in the case of Gulf War syndrome are examples. Contemporary debates between scientists, clinicians, veterans, and their advocates, and journalists persist around putative etiology. Some argue that the consistent appearance of these syndromes after war speaks to the likelihood that psychosocial factors contribute to their etiology and importantly the particular role of speculation (by the media and politicians) in the absence of facts to rebut hearsay (Tam et al., 2008).

**Other Psychiatric Illnesses**

While not confined to war or disasters, depression, anxiety disorders, and personality changes have all been associated with exposure to trauma. These psychiatric disorders may be accompanied by somatic complaints and may be related to either a traumatic event itself or the associated consequences (e.g., loss of lifestyle or loved ones).

**Risk and Protective Factors**

Broadly speaking risk factors for the development of PTSD and other mental health disorders after traumatic incidents can be
divided into pre-event factors, the nature of the incident itself, and factors relating to the post-event environment. The most influential are the post-incident factors as described in the following paragraphs (Brown et al., 2003). Pre-incident factors include gender (women being diagnosed with PTSD more frequently than men), low educational status, childhood adversity, prior history of mental health problems, and/or socioeconomic disadvantage. There are many potential explanations for the existence of these risk factors including psychosocial factors, coping styles, cultural factors, and neurobiological explanations. It is also notable that individuals who have successfully negotiated past traumatic experiences may be resilient (sometimes described as 'hardened') in similar future situations. However, if past traumatic events resulted in PTSD, or other psychiatric distress syndromes, subsequent traumatic exposures may make future episodes of these disorders more likely.

Factors related to the incident itself include number and frequency of traumatic events, the nature of the event(s) (e.g., possible use of torture), moral challenges faced (did the person survive because others perished), and the physical/predatory consequences of the event (e.g., physical injuries and loss of status, possessions, or loved ones).

The most influential factors in terms of longer-term post-incident mental health are the post-incident ones. Specifically, there is a wealth of evidence that (1) having access to good social support (provided by people that the individual trusts and who honestly care for them) and (2) experiencing a low (but not no) pressure environment during recovery are the strongest determinants of good post-incident mental health. The understanding of these two factors and their effect on mental health are critical to influencing post-combat, or post-disaster mental health, and mental health care providers who mistakenly intervene professionally without taking account of these two factors may inadvertently cause harm. There is considerable evidence that being exposed to post-incident mental health counseling (often termed 'debriefing') is, in the main, associated with no long-term benefit, but in some cases leads to a poorer outcome than not being 'psychologically debriefed' at all.

The protective nature of social cohesion is often most evident in defined groups such as the military or emergency services where strong camaraderie and leadership are commonplace. Both are powerful protective in terms of post-incident mental health status. Within military units, any mental health intervention has to take account of group dynamics and to a less extent the same is true for any population affected by disasters. For instance, in the aftermath of a mass crash, provision of treatment for someone who has developed PTSD without addressing the role they played during the event is unlikely to be successful. Within military units cohesion and leadership is often forged during preparatory training regimes and cemented during combat itself. The same is true for emergency responders during the aftermath of any traumatic event.

Similarly, although possibly more fragile bonds may form within previously non-coherent communities during and after disasters. After disasters the impact of statutory agencies in fostering a sense of security and safety, and preventing further exposure to stressors is critical. Symptoms in civilian victims of war or in the aftermath of disaster may be mitigated or exacerbated by perceptions of community leadership’s preparedness for disaster, response to crisis, recognition of ‘heroes’, and provision of medical, financial, or emotional assistance both immediately after crisis, and overtime. Often a range of NGOs (e.g., the Red Cross or Red Crescent) may also provide input such as attending to basic human needs such as food, clothing, and shelter thereby reducing both the psychological and the physiological effects of the event. However, poorly coordinated post-disaster responses can lead to confusion and anger in disaster affected communities with consequential effects on their mental health.

Management and Care Delivery

Often disasters or military conflicts shatter the expectation of a world as a just and safe place. Ideally primary preventative measures such as providing professionals with the right training, including imparting training managers/leaders about the impact of their behaviors on the mental health of team members will be in place before an incident occurs. Additionally most organizations that operate in high-risk situations will have selected their employees carefully, although it is notable that formal pre-deployment or post-deployment mental health screening has not been shown to be effective.

Once an incident has occurred interventions vary with the stage of the disaster. Initially, establishing a safe environment and managing life-threatening injury and disease possibilities, such as those resulting from infection or absence of potable water, can be the most important psychiatric interventions. Subsequently, identifying high-risk populations such as disaster workers, firefighters, police, persons at impact zones, and children can focus intervention strategies. Post-incident mental health screening a secondary preventive measure, may be effective in some populations (e.g., people who appear to be in difficulty after disaster or who consult a health care professional asking for assistance), but has not been shown to be effective in military populations probably because of concerns of personnel about the consequences of scoring positive in terms of their future career and the way they are viewed by peers and bosses.

Community outreach programs may also be important since disaster victims rarely seek mental health care. The physically injured are also at great risk for psychiatric disturbance. Educating medical and community groups about normal responses to traumatic events as well as when mental health referral is indicated is an important part of outreach programs. Providing information for families and work colleagues may also be important keeping in mind that the aim is to encourage them to provide good support without causing them to become unduly worried.

Military Mental Health Care

Military forces generally have in-house mental health provision that aims to provide both preventative intervention before operational deployment and evidence-based care for individuals who develop formal mental health disorders.
However, the primary aim of most military mental health care provision is to keep personnel psychologically fit, or return them to psychological fitness, so they can deploy to high-threat environments including combat and peacekeeping missions. Military mental health care provision may take place in home-base locations or in a deployed environment, although there is some evidence about the effectiveness of treatment delivered in such conditions. Military health care professionals have to decide if personnel are ready for deployment where they may be required to protect colleagues or carry out other safety critical tasks. If deployed when not fully fit, poor concentration or judgment, both characteristics of people who suffer with mental health problems, can lead to serious consequences for the individual and their colleagues.

Organizational Management of Traumatic Stress

Military forces, and other disaster responders, have a duty to provide appropriate care and support to their staff. In general, the mental health of trauma-exposed personnel is more a function of good organizational preparation and camaraderie/leadership than the availability, or not, of mental health professionals. Organizational preparedness can include training for employees and managers to foster group cohesion (e.g., peer support training such as Trauma Risk Management [TRM]) developed in the US (Greenberg et al., 2016) or a variety of resilience training packages some of which (e.g., mindfulness-based approaches) have shown promise although well-conducted randomized controlled trials of these training packages are lacking. There have been various efforts to routinely screen troops after deployment in order to advise those with possible mental health disorders to seek help, but so far there is no evidence that these, costly, processes have been effective in spite of their widespread use (Miltken et al., 2007).

It is also noteworthy that many organizations who have a reputation for working in high threat locations have also been described as having a "stiff upper-lip", a term that interferes that individuals within these organizations are reluctant to either acknowledge suffering from mental health problems or in seeking help for them. Research has shown, however, that in reality, a reluctance to seek help is common within all elements of society and not restricted to specific trades or groupings. However, help seeking is likely to be strongly influenced by the attitudes of the families of those affected by traumatic events and thus mental health professionals should take account of family views when formulating a management plan.

Possible Technological Advances

The modern battlefield is both rather similar and rather different to those of old. While troops are still, often, required to live in austere conditions and contend with threats to their health, and indeed live on occasion, more recent conflicts have been marked by the development of better communication with home than ever before. While there are many putative benefits of easy access to support from friends and family located far away, improvements in communication exposes deployed troops to ever-increasing numbers of mental health problems. For instance, trying to talk to a child, who is missing their father, while he is being subjected to intense mortar attacks can be challenging to say the least. However, disasters also may interrupt communications leading to distress. For instance, research carried out after the London bombings of 2005 revealed that distress was significantly more likely if respondents had been unable to contact loved ones around the time of the bombings in order to be able to verify their safety (Rubin et al., 2005).

Future wars will see troops having to deal with increasing technological advances in hardware such as the use of advanced sensor, weapons, and battlefield communication systems that require greater degrees of cognitive engagement than has been the case previously. Furthermore, the evolution of highly mobile units on widely dispersed battlefields will increase the opportunity for exchanging mental trauma from the rear area for those exhausted by frontline combat. Provision of brief respite for exhausted troops – a hallmark of management of battle fatigue – may become impossible as each individual may be performing a critical specialized task. Advanced technology will have similar implications for those responding to human-made disasters such as terrorist attacks especially as terrorist gains increased access to so-called weapons of mass destruction (chemical, biological, and nuclear agents). Clarifying the roles of military and civilian responders in terms of triage, treatment, consultation, and education in any joint response to crisis is another challenge for military and disaster psychiatrists.

Conclusions

Engaging with conflicts, including conflicts, or natural and human-made disasters can lead to deterioration in an individual's state of mental health. Much of the effect comes from the result of disruption of individual's social ties and the pressures they have to contend with as they try to maintain a sense of normality within wide populations experiencing psychological disturbances that have been well described by social scientists, civil leaders, physicians, and other care providers throughout the ages. Most people will recover from these difficulties without the need for formal interventions; however, a small proportion will require, or at least benefit from, evidence-based care. In most cases, however, those who go on to develop mental health problems will either not recognize they are unwell or will be reluctant to seek help if they do.

The consequences of exposure to disaster and war may take the form of psychological disorders such as PTSD or may manifest as various (and sometimes more subtle) forms of behavioral change, anxiety, or depression. Symptoms may present at different times during and after traumatic exposure although the majority of post-event reactions come on soon after the event itself. Many factors complicate the evaluation and treatment of mental health disorders in the aftermath of war or disaster including resources being overwhelmed, life-
threatening physical illnesses or injuries requiring immediate treatment, and that psychological casualties are often reluctant to seek assistance.

In spite of the difficulties that military and disaster psychiatrists face, considerable progress has been made over recent years. We know that improving social bonds, providing psychological and physical safety, and adopting a watchful waiting approach are all likely to mitigate the effects of exposure to traumatic events. Furthermore, there is a range of evidence-based treatment approaches that are primarily based on the provision of focused, time-limited psychotherapies that can help individuals who develop mental health disorders after war or disaster affect a successful recovery. The value of multidisciplinary preparation and training for disaster management and the need for post-incident welfare and support, rather than counseling or therapy-based, outreach programs have also been demonstrated. Future work will hopefully identify how to bolster individual and group resilience and identify novel, or more rapidly delivered, therapeutic techniques, to improve recovery of those who become formally ill. Given that wars and disasters are likely to be a feature of our societies for many years ahead, military and disaster mental health care delivery will need to remain evidence based but flexibly delivered to provide the highest standard of prevention, evaluation, and care for individuals and groups devastated by war or disaster.

See also: Mass Trauma; Psychopathological Effects across the Life Span; Natural Disasters: Health-Related Aspects; Personality Theory and Psychopathology; Post-Traumatic Stress Disorder; Post-Traumatic Stress in Social Work

Bibliography


