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An Overview of Combat-Related Posttraumatic Stress Disorder (PTSD)

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ABSTRACT

The wars in Afghanistan and Iraq have posed unique challenges to U.S. military personnel and their families. Among them are concerns about the adverse psychological effects of combat and military-related trauma on our returning service men and women, their families, and their communities. In this article, we provide an overview of combat-related posttraumatic stress disorder (PTSD). The learning objectives are to: 1) Gain an understanding of the diagnostic criteria for PTSD; 2) gain knowledge regarding the prevalence of war trauma and combat-related PTSD; and 3) increase awareness of co-morbid psychiatric disorders and common impairments in functioning and quality of life among active duty military personnel and veterans with PTSD. The discussion will also focus on increasing knowledge about the risk and resilience factors associated with the development and course of PTSD, factors that promote recovery from PTSD, and available treatment options.

I. INTRODUCTION

The Global War on Terror (GWOT) was the umbrella term used by the U.S. government for counterterrorism military actions that began on or after the September 11, 2001 attacks on the United States.¹ The official name for

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the war in Afghanistan is Operation Enduring Freedom (OEF), and the war in Iraq is officially termed Operation Iraqi Freedom (OIF).² These terms also included a number of smaller military conflicts, including supportive counterterrorism operations in other areas of the world.³ On September 1, 2010, the war in Iraq acquired a new moniker, Operation New Dawn (OND), designed to coincide with the change of mission in Iraq from an active counterinsurgency role to one of active support of the Iraqi military.⁴ On December 15, 2011, the Iraq War was officially declared over by U.S. Defense Secretary Leon Panetta.⁵ The war in Afghanistan continues to the present day. In January 2013, “President Barack Obama, after meeting with President Hamid Karzai of Afghanistan, [released a joint statement] that the [U.S.] would be able to accelerate the withdrawal of troops from Afghanistan in [the] coming months because of gains made by Afghan security forces.”⁶

For many returning service members and their families, surviving war represents but one of the myriad of challenges associated with deployment. Military personnel involved in operations associated with the GWOT may have confronted difficulties associated with the current structure of U.S. military forces and defense needs of the country. Recent changes include the decreasing size of the U.S. Armed Forces.⁷ For example, “[d]uring the period of Operation Desert Storm . . . approximately 750,000 [active] service members” comprised the U.S. Army.⁸ “This number decreased to its current number of just fewer than 500,000 [active] personnel by the mid 1990s, its

1. See Rod Powers, *Global War on Terrorism Medals*, ABOUT.COM, <http://www.usmilitary.about.com/od/medalsanddecs/1/blwotmedals.htm?p=1> (last visited Apr. 21, 2013).

2. See Jarod Perkioniemi, *Army NCO History (Part 9): OEF, OIF and the Future of the NCO*, WWW.ARMY.MIL (Mar. 11, 2009), <http://www.army.mil/article/18051/army-nco-history-part-9-oef-oif-and-the-future-of-the-nco/>.

3. See *id.*

4. *New Name for Iraq War: Operation New Dawn*, ARMYTIMES (Feb. 19, 2010, 7:19 PM), http://www.armytimes.com/news/2010/02/military_new_dawn_gates_021810w (copy on file with *Nova Law Review*).

5. Thom Shanker et al., *In Baghdad, Panetta Leads Uneasy Moment of Closure to a Long Conflict*, N.Y. TIMES, Dec. 16, 2011, at A19; Tom Vanden Brook, *U.S. Formally Declares End of Iraq War*, USA TODAY, <http://usatoday30.usatoday.com/news/world/iraq/story/2011-12-15/Iraq-war/51945028/1> (last updated Dec. 15, 2011).

6. Mark Landler, *Obama: Troops' Exit Can Rev Up*, COLUMBUS DISPATCH (Jan. 12, 2013, 9:33 AM), http://www.dispatch.com/content/stories/national_world/2013/01/12/obama-troops-exit-can-rev-up.html.

7. NAT'L CTR. FOR POST-TRAUMATIC STRESS DISORDER, DEPT. OF VETERANS AFFAIRS, *IRAQ WAR CLINICIAN GUIDE 4–5* (2d ed. 2004), available at http://www.ptsd.va.gov/professional/manuals/manual-pdf/iwcg/iraq_clinician_guide_v2.pdf.

8. *Id.*

smallest size since the beginning of World War II.”⁹ With the number of military personnel significantly reduced, “the tempo of operations (OPTEMPO)” or frequency and intensity of assigned missions—both war and operations other than war—has increased, leading many service members to “deploy to unaccompanied overseas assignments repeatedly during their careers.”¹⁰

The challenges inherent in repeated deployments may be exacerbated by the large Guard and Reservists composition of the U.S. Armed Forces.¹¹ Whereas active duty personnel generally “deploy with the units with whom they train and . . . [their] families . . . [reside in] established military communities (bases and posts),” Guard and Reserve members may be assigned to unfamiliar units and leave their families behind without the resources and support afforded by a military base.¹² Compounding these challenges, Guard and Reserve members may face “loss of civilian employment” and financial repercussions as a result of multiple deployments.¹³

For all military personnel, deployment may be associated with “different forms or expressions of stress” depending on how well they adjust to the various stressors that occur during the different phases of deployment (i.e., prior, during, and after) and the types of conflict encountered overseas.¹⁴ For example, prior to deployment, military personnel may face worry concerning planning for a prolonged absence and uncertainty concerning their departure date as deployment orders often change.¹⁵ During this phase of pre-deployment, the reality of having to leave family and transition to a combat environment may set in, and mental health practitioners may have difficulty differentiating a normal stress reaction from “the development or recurrence of [a] psychiatric” disorder.¹⁶ During the deployment phase, the stressors associated with pre-deployment can be compounded by the types of conflict encountered during deployment.¹⁷ Types of conflict can range from low intensity combat, in which combat occurs intermittently—as in peace keeping missions—to high intensity combat, where other strains are more pervasive such as extremes of “family separation, . . . harsh living conditions, ex-

9. *Id.* at 5.

10. *Id.* at 7.

11. *See id.* at 6.

12. NAT’L CTR. FOR POST-TRAUMATIC STRESS DISORDER, DEP’T OF VETERANS AFFAIRS, *supra* note 7, at 7.

13. *Id.*

14. *Id.* at 7–8.

15. *Id.* at 7.

16. *Id.* at 7–8.

17. *See* NAT’L CTR. FOR POST-TRAUMATIC STRESS DISORDER, DEP’T OF VETERANS AFFAIRS, *supra* note 7, at 8.

tremely long duty hours with little [opportunity for rest, . . . reduced] communication with the outside world, and boredom.”¹⁸ Moreover, many of the challenges encountered in operations in Iraq and Afghanistan have been unprecedented.¹⁹

Unlike previous conflicts where [noncommissioned officers (NCOs)] were leading [individuals] against another nation’s Army, they now found themselves fighting against individuals, who were not wearing a distinctive uniform, but blended themselves into the crowd, making it harder to distinguish who was a threat. Urban guerilla warfare also became a prominent means of combat as raids and attacks were carried out placing NCOs in the midst of heavily populated areas, surrounded by noncombatants.²⁰

The uncertainty of distinguishing enemy forces from companions and civilians may exacerbate the inherent fear and intensity of warfare and is highly conducive to the development of acute stress reactions and the development of PTSD.²¹ Whereas experiencing a stress response in combat is adaptive in that it prepares the individual to face threat,²² the development of a psychiatric disorder ensues, in part, when the body’s stress response persists long after the stressor or life threatening situation has ended.²³

The stress response is a coordinated set of interactions among multiple organ systems in the body—including the brain, gut, heart, liver, immune system, thyroid, adrenals, pituitary, gonads, bone, and skin—that prepares the body for action, i.e., “fight or flight” in response to an acute stressor.²⁴ Typically, the acute stress response subsides after the stressor has ended and the body returns to its normal state.²⁵ However, a chronic stress response can develop, as in the diagnosis of PTSD, in which the individual lives in a chronic state of heightened arousal that can result in subjective feelings of anxiety and diminished control.²⁶ Research supports that “PTSD may be associated with stable neurobiological alterations in both the central and au-

18. *Id.*

19. *See* Perkioniemi, *supra* note 2.

20. *Id.*

21. *See* NAT’L CTR. FOR POST-TRAUMATIC STRESS DISORDER, DEP’T OF VETERANS AFFAIRS, *supra* note 7, at 8.

22. *See id.* at 23.

23. *Id.* at 11–12.

24. *See id.*; Terry Hurley, *Physiological Responses to Stress*, LOVE TO KNOW, http://stress.lovetoknow.com/physiological_responses_to_stress (last visited Apr. 21, 2013).

25. NAT’L CTR. FOR POST-TRAUMATIC STRESS DISORDER, DEP’T OF VETERANS AFFAIRS, *supra* note 7, at 23.

26. *See id.* at 12.

tonomic nervous systems” including most brain mechanisms related to the survival response.²⁷

II. DIAGNOSIS OF PTSD

PTSD first appeared in the Diagnostic and Statistical Manual of Mental Disorders, Third Edition (DSM-III) in 1980.²⁸ However, observations concerning chronic stress reactions in response to war have occurred early in the history of human conflict. For example, in *Achilles in Vietnam*, author Jonathan Shay, M.D., examines the psychological effects of war by comparing the experiences of Vietnam veterans diagnosed with PTSD to Homer’s account of Achilles’ experiences in the *Iliad*, a literary work “composed . . . twenty-seven centuries ago.”²⁹ More recent descriptions of PTSD reactions were also noted during the Civil War (Soldier’s Heart) and described by the event that caused them, such as World Wars I and II (e.g., Railroad Syndrome, Shell Shock and Traumatic Neurosis, Survivor Syndrome).³⁰ In the current Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, PTSD is diagnosed based on several criteria.³¹ Unlike other psychiatric disorders that appear in the DSM-5, PTSD is unique—with the exception of Acute Stress Disorder³²—in that a severe and identifiable environmental stressor must precipitate the onset of symptoms.³³ Criterion A stipulates the following: Exposure to actual or threatened death, serious injury, or sexual violence” through direct experience, witnessing in-person, learning of the violent or accidental death of family or a close friend, or experiencing repeated or extreme exposure to aversive details of the traumatic events.³⁴

The second criterion, B, concerns the experience of reliving the traumatic event.³⁵ The DSM-IV-TR stipulates the presence of one (or more) of the following intrusion symptoms:

27. *PTSD Frequently Asked Questions*, MILITARY.COM, <http://www.military.com/benefits/veterans-health-care/ptsd-frequently-asked-questions.html> (last visited Apr. 21, 2013).

28. AM. PSYCHIATRIC ASS’N, *DIAGNOSTIC AND STATISTICAL MANUAL OF MENTAL DISORDERS* 236–39 (3d ed. 1980).

29. JONATHAN SHAY, *ACHILLES IN VIETNAM: COMBAT TRAUMA AND THE UNDOING OF CHARACTER*, at xiii (1994).

30. See I.S. PARRISH, *MILITARY VETERANS PTSD REFERENCE MANUAL* § II (rev. ed. 2008), <http://www.ptsdmanual.com/chap1.htm>.

31. AM. PSYCHIATRIC ASS’N, *DIAGNOSTIC AND STATISTICAL MANUAL OF MENTAL DISORDERS* 143–49 (5th ed.) [hereinafter DSM-V].

32. *Id.*

33. *See id.*

34. *Id.* at 143.

35. *Id.* at 144.

1) Recurrent, involuntary, and intrusive distressing memories of the traumatic event(s); 2) recurrent distressing dreams in which the content and/or affect of the dream are related to the traumatic event(s); 3) Dissociative reactions (e.g., flashbacks) in which the individual feels or acts as if the traumatic event(s) were recurring; 4) Intense prolonged psychological distress at exposure to internal or external cues that symbolize or resemble aspects of the traumatic event(s); marked physiological reactions to internal or external cues that symbolize or resemble an aspect of the traumatic event(s).³⁶

Individuals with PTSD often experience multiple manifestations of the symptoms described in Criterion B.³⁷ These symptoms depict the experience of being tormented by vivid and unwelcome internal experiences surrounding the traumatic event with the concomitant physiological (e.g., racing heart) and psychological distress (e.g., feelings of horror, or guilt) aroused by traumatic cues.³⁸ For some individuals with PTSD, intrusion symptoms can extend to psychotic episodes (flashbacks) in which the person loses grip on current reality and misperceives and acts as if he/she is literally re-living the traumatic experience.³⁹

The third criterion, C—persistent avoidance—concerns the pervasive efforts that people with PTSD engage in to cope with the significant distress and disruption caused by re-experiencing symptoms.⁴⁰ To be diagnosed with PTSD, the individual must endorse one or both of the symptoms of “[p]ersistent avoidance of stimuli associated with the traumatic event(s), beginning after the traumatic event(s) occurred” as indicated by:

1) Avoidance of or efforts to avoid distressing memories, thoughts, or feelings about or closely associated with the traumatic event(s);
2) Avoidance of or external reminders (people, places, conversations, activities, objects, situations) that arouse distressing memories, thoughts, or feelings about or closely associated with the traumatic event(s).⁴¹

36. DSM-V, *supra* note 31, at 144.

37. *See id.*

38. *See id.* at 143–149.

39. *See id.* at 144. For example, the individual is no longer at a family picnic, but suddenly finds himself thrust back to the battlefield in Afghanistan. Family members may observe him acting out past combat experiences at the picnic.

40. *Id.*

41. DSM-V *supra* note 31, at 144.

Whereas the strategy of avoiding traumatic cues may seem like a viable way for an individual with PTSD to reduce their exposure to painful internal experiences (e.g., thoughts, emotions, memories), avoidance as a general coping strategy is ineffective because cognitive suppression has the opposite of the intended effect.⁴² A large body of research demonstrates that the more one tries to stop thinking (or feeling) something, the more it occurs.⁴³ Moreover, persistent avoidance inhibits the process of integrating the traumatic experience into the person's life narrative in a way that would enable the individual to move on from the psychological crisis.⁴⁴ Avoidance of people, places, conversations, and activities that arouse recollections of the trauma can also interfere with engaging in routine activities of daily living that can promote healing (e.g., career, recreation, family life), including accessing the person's own natural supports through meaningful relationships (e.g., family, clergy, friends).

Criterion D stipulates that the person experiences "negative alterations in cognitions and mood associated with the traumatic event(s), beginning or worsening after the traumatic event(s) occurred, as evidenced by two (or more) of the following":

- 1) Inability to remember an important aspect of the traumatic event(s) (typically due to dissociative amnesia and not to other factors such as head injury, alcohol, or drugs)
- 2) Persistent and exaggerated negative beliefs or expectations about oneself, others, or the world (e.g., "I am bad," "No one can be trusted," "The world is completely dangerous," "My whole nervous system is completely ruined";
- 3) Persistent, distorted cognitions about the cause or consequences of the traumatic event(s) that lead the individual to blame himself/herself or others.
- 4) Persistent negative emotional state (e.g., fear, horror, anger, guilt, or shame);
- 5) Markedly diminished interest or participation in significant activities;
- 6) Feelings of detachment or estrangement from others; and
- 7) Persistent inability to experience positive emotions (e.g., inability to experience happiness, satisfaction, or loving feelings).⁴⁵

42. See Richard M. Wenzlaff & Daniel M. Wegner, *Thought Suppression*, 51 ANN. REV. PSYCHOL., 59, 64, 83 (2000).

43. See *id.* at 83.

44. See *id.* at 59, 64, 83.

45. DSM-V, *supra* note 31, at 145.

Whereas the symptoms in this criterion are no longer included in the avoidance cluster of symptoms as in previous editions of the DSM, persistent changes in thoughts and mood can represent a form of psychological avoidance in which the person becomes unable to experience their emotions, particularly emotional connection in human relationships. For example, a combat veteran with PTSD might relay that he or she does not *feel anything anymore*. He or she may perceive a sense of estrangement from others, even when in the presence of individuals with whom he or she was emotionally close before the traumatic event, such as family and friends.⁴⁶ Whereas psychological avoidance may at times successfully distract the individual from unwelcome painful thoughts and emotions, such as thoughts about personal culpability and feelings of guilt, when implemented as a pervasive coping strategy, psychic avoidance also has the unintended effect of inhibiting the experience of positive emotions, such as joy and love. The individual may be able to cognitively discern that a strong emotional response is in order (e.g., sadness at a funeral; joy when playing with children), but has difficulty overcoming his or her own emotional numbing. Also included in this criterion is the experience of psychogenic amnesia, or an inability to remember significant aspects of the traumatic event, which is another form of emotional disconnection that is a less commonly observed PTSD symptom.⁴⁷

The fourth PTSD criterion, E, is as follows: “Marked alterations in arousal and reactivity associated with the traumatic event(s), beginning or worsening after the traumatic events(s) occurred, as evidenced by two (or more) of the following: 1) Irritable behavior and angry outbursts (with little or no provocation) typically expressed as verbal or physical aggression toward people or objects; 2) Reckless or self-destructive behavior; 3) Hypervigilance; and 4) Exaggerated startle response; 5) Problems with concentration; and 6) Sleep disturbance (e.g., difficulty falling or staying asleep or restless sleep).”⁴⁸ As in other anxiety disorders, insomnia, irritability, and concentration difficulty are symptomatic of PTSD.⁴⁹ In contrast, hypervigilance and startle are more pathognomonic of PTSD, with the “startle response ha[ving] a unique neurobiological substrate.”⁵⁰ Hypervigilance and startle can resemble frank paranoia, as individuals tend to misinterpret their

46. *See id.* at 144–45.

47. *See id.* at 145.

48. *Id.* at 145.

49. *Id.* at 464; Matthew J. Friedman, *PTSD History and Overview*, U.S. DEPARTMENT OF VETERANS AFF. (Jan. 31, 2007), <http://www.ptsd.va.gov/professional/pages/ptsd-overview.asp>.

50. Friedman, *supra* note 49.

environment and perceive danger where it does not exist.⁵¹ For example, an individual with combat PTSD may repeatedly patrol the perimeter of his or her home armed with a weapon to ensure that the family remains secure even though no credible threat is present.⁵²

The duration criterion, F, specifies that the symptoms delineated in criteria B through E must last at least one month.⁵³ Finally, as in all psychiatric disorders, the functional significance criterion specifies that the symptoms “must cause clinically significant . . . impairment in social, occupational, or other important areas of functioning.”⁵⁴

III. PREVALENCE AND COMORBIDITIES OF PTSD

Much of what is currently known about the prevalence of PTSD is derived from two large population-based epidemiological studies that represent benchmark studies for all psychiatric disorders: The U.S. National Comorbidity Survey (NCS), conducted between 1990 and 1992, and The U.S. National Comorbidity Survey Replication (NCS-R), conducted between 2001 and 2003.⁵⁵ The prevalence of PTSD was similar across both samples,⁵⁶ so only prevalence in the more recent NCS-R is presented here. Information on the original NCS is discussed at length elsewhere.⁵⁷ The NCS-R assessed the prevalence rates of PTSD in a nationally representative subsample of 5,692 adult Americans using DSM-IV criteria.⁵⁸ “[E]stimated . . . lifetime prevalence of PTSD among adult Americans [was] 6.8%.”⁵⁹ “The lifetime prevalence of PTSD among men was 3.6% and among women was [over twice

51. *Id.*

52. John Zemler, *What Is PTSD Hypervigilance or Hyper Alertness?*, HUBPAGES, <http://drzemler.hubpages.com/hub/What-is-PTSD-Hypervigilance-or-Hyper-Alertness> (last updated Feb. 20, 2010).

53. DSM-V, *supra* note 31, at 143–49; *see also* Friedman, *supra* note 49.

54. DSM-V, *supra* note 31, at 143–49.

55. *See* Ronald C. Kessler et al., *Posttraumatic Stress Disorder in the National Comorbidity Survey*, 52 ARCHIVES GEN. PSYCHIATRY 1048, 1049 (1995) [hereinafter Kessler et al., *Posttraumatic Stress Disorder in the National Comorbidity Survey*]; Ronald C. Kessler et al., *Prevalence, Severity, and Comorbidity of 12-Month DSM-IV Disorders in the National Comorbidity Survey Replication*, 62 ARCHIVES GEN. PSYCHIATRY 617, 618, 624 (2005) [hereinafter Kessler et al., *Prevalence, Severity, and Comorbidity*].

56. Kessler et al., *Prevalence, Severity, and Comorbidity*, *supra* note 55, at 624.

57. *See* Kessler et al., *Posttraumatic Stress Disorder in the National Comorbidity Survey*, *supra* note 55, at 1051–57.

58. Ronald C. Kessler et al., *Lifetime Prevalence and Age-of-Onset Distributions of DSM-IV Disorders in the National Comorbidity Survey Replication*, 62 ARCHIVES GEN. PSYCHIATRY 593, 593–94 (2005).

59. Jamie L. Gradus, *Epidemiology of PTSD*, U.S. DEPARTMENT OF VETERANS AFF. (Jan. 31, 2007), <http://www.ptsd.va.gov/professional/pages/epidemiological-facts-ptsd.asp>.

that at] 9.7%.”⁶⁰ The twelve-month prevalence was estimated at 3.5%⁶¹—1.8% among men and 5.2% among women.⁶² Currently, research has not determined what accounts for the higher prevalence rates of PTSD among women, but increased likelihood of exposure (more trauma) and type of traumatic exposure (the kind of event) do not appear to explain these differences.⁶³ The differences may be attributable to severity of the trauma, gender differences in appraisal of threats, other physiological sex-linked differences, or due to other factors yet to be uncovered.⁶⁴

Whereas the lifetime prevalence rate of PTSD in the general population is fairly low, at about 7.8%, the NCS-R study found estimated lifetime prevalence of PTSD among combat veterans to be significantly higher, at about 38.8%.⁶⁵ Similarly, The National Vietnam Veterans Readjustment Study (NVVRS) is a large-scale study of about 3,000 individuals, including veterans that served in the military during the Vietnam era.⁶⁶ Researchers reported high estimated lifetime prevalence of PTSD in active duty Vietnam veterans for both men (30.9%) and women (26.9%).⁶⁷ When the data was examined according to percentage of active duty Vietnam veterans diagnosed with PTSD at the time of the survey, 15.2% of males and 8.5% of females were diagnosed with PTSD.⁶⁸ Taken together, these data demonstrate that exposure to combat is a particularly brutal stressor that appears to impact both men and women similarly in terms of the development of PTSD:⁶⁹ “Exposure to combat has been described as one of the most intense stressors that a person can experience, and for many people . . . combat . . . is the most

60. *Id.*

61. Kessler et al., *Prevalence, Severity, and Comorbidity*, *supra* note 55, at 620 tbl.1.

62. NAT’L INST. OF MENTAL HEALTH, NATIONAL COMORBIDITY SURVEY: 12-MONTH PREVALENCE OF DSM-IV/WMH-CIDI DISORDERS BY SEX AND COHORT, at tbl.2 (2007), *available at* http://www.hcp.med.harvard.edu/ncs/ftpd/NCS-R_12-month_Prevalence_Estimates.pdf.

63. See David F. Tolin & Edna B. Foa, *Sex Differences in Trauma and Posttraumatic Stress Disorder: A Quantitative Review of 25 Years of Research*, 132 *PSYCHOL. BULL.* 959, 977 (2006).

64. *Id.* at 978–79.

65. Kessler et al., *Posttraumatic Stress Disorder in the National Comorbidity Survey*, *supra* note 55, at 1052–53.

66. RICHARD A. KULKA ET AL., *TRAUMA AND THE VIETNAM WAR GENERATION: REPORT OF FINDINGS FROM THE NATIONAL VIETNAM VETERANS READJUSTMENT STUDY* 13 (1990).

67. *Id.* at 53.

68. *Id.* at 52.

69. *Id.* at 52–53.

traumatic [event] of their life.”⁷⁰ In fact, some research has shown a dose-response relationship between combat and PTSD; the prevalence of PTSD in veterans increases as combat exposure increases.⁷¹

PTSD is also comorbid (occurs together) with other psychiatric disorders and psychosocial problems.⁷² Common psychiatric comorbidities include major depression, general anxiety, and substance-use disorders.⁷³ Veterans with PTSD have clinically significant impairment in other important areas of functioning.⁷⁴ Research indicates that veterans with PTSD experience significantly higher rates of unemployment and of being fired from employment, marital distress—both divorce and separation—or spousal abuse, poorer health and increased limitations to physical functioning, and increased likelihood of perpetuating violence.⁷⁵

IV. RISK & RESILIENCE FACTORS

PTSD can have devastating impacts on individuals, families, and communities.⁷⁶ At the same time, surviving war can be transformative in ways that stimulate growth, maturation, and renewal. Many combat personnel acquire an enhanced sense of purpose, camaraderie, pride, and meaning. For others, the transformative effects stimulate a crisis that can manifest at any point across the lifespan. A number of pre-deployment, deployment (warzone), and post-deployment factors have been identified as directly or indirectly increasing one’s risk for developing PTSD—risk factors—or offering protection against it—resilience factors—following exposure to combat trauma.⁷⁷ Evidence points to deployment (warzone) factors as most significantly related to whether an individual will develop PTSD, followed by post-deployment and pre-deployment factors, respectfully.⁷⁸

70. 6 COMM. ON GULF WAR & HEALTH, INST. OF MED., PHYSIOLOGIC, PSYCHOLOGIC, AND PSYCHOSOCIAL EFFECTS OF DEPLOYMENT-RELATED STRESS 32 (2008), available at <http://books.nap.edu/catalog/11922.html> (citations omitted).

71. Barbara A. Hermann et al., *Epidemiology and Prevention of Combat-Related Post-Traumatic Stress in OEF/OIF/OND Service Members*, MILITARY MED., Aug. Supp. 2012, at 1, 3.

72. Kessler et al., *Posttraumatic Stress Disorder in the National Comorbidity Survey*, *supra* note 55, at 1051, 1054–55.

73. *Id.* at 1055, 1056 tbl.7.

74. *See id.*

75. KULKA ET AL., *supra* note 66, at 141–42, 247–48.

76. *See* Hermann et al., *supra* note 72, at 1–3.

77. *Id.* at 1–4; Dawne S. Vogt & Lynlee R. Tanner, *Risk and Resilience Factors for Post-traumatic Stress Symptomatology in Gulf War I Veterans*, 20 J. TRAUMATIC STRESS 27, 28–29 (2007).

78. Vogt & Tanner, *supra* note 77, at 27, 34.

At pre-deployment, risk of developing PTSD is greater if the individual is female, if the individual had experienced significant stressors—such as “divorce, . . . family psychiatric illness, domestic violence, abuse, or violence”—or had mental or physical health problems prior to entering combat.⁷⁹ At deployment, risk of developing PTSD is heightened if the individual experienced greater severity of combat exposure, greater frequency or duration of deployments, “or perceived threat of personal [harm]” or death, as well as if the individual had relationship or family concerns, sustained a physical injury during deployment, reacted to combat exposure with high levels of arousal, or experienced peritraumatic dissociation.⁸⁰ Post-deployment risk factors include experiencing additional life stressors (e.g., unemployment, familial discord, financial difficulty) and having poor social support.⁸¹

A pre-deployment protective factor also includes growing up in “positive childhood family environments.”⁸² Individuals reared in such environments experience fewer stressors later in life and have easier access to post-deployment supportive relationships.⁸³ Believing that one is prepared for combat and having supportive relationships, particularly in the form of unit member cohesion during deployment and greater social support at post-deployment, also protects against the development of PTSD.⁸⁴

V. TREATMENT

A range of treatments is available to treat PTSD, although they have not all received the same amount of research attention.⁸⁵ Among the pharmacological treatments, paroxetine, sertraline, and venlafaxine show the most promise.⁸⁶ Psychological treatments have been shown to be more effective than pharmacotherapies, with cognitive-behavioral therapies combined with

79. Hermann et al., *supra* note 71, at 2.

80. *Id.* at 3; Dawne Vogt et al., *Predeployment, Deployment, and Postdeployment Risk Factors for Posttraumatic Stress Symptomatology in Female and Male OEF/OIF Veterans*, 120 J. ABNORMAL PSYCHOL. 819, 828 (2011).

81. Hermann et al., *supra* note 71, at 3; Vogt & Tanner, *supra* note 76, at 29.

82. Vogt & Tanner, *supra* note 77, at 28.

83. *Id.*

84. Hermann et al., *supra* note 71, at 3; *see* Faith Ozbay et al., *Social Support and Resilience to Stress: From Neurobiology to Clinical Practice*, PSYCHIATRY, May 2007, at 35, 37–38; Vogt & Tanner, *supra* note 77, at 28–31.

85. Alan L. Peterson et al., *Assessment and Treatment of Combat-Related PTSD in Returning War Veterans*, 18 J. CLINICAL PSYCHOL. MED. SETTINGS, 164, 168 (2011).

86. Brian A. Sharpless & Jacques P. Barber, *A Clinician’s Guide to PTSD Treatments for Returning Veterans*, 3 PMC (Feb. 1, 2012), <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3070301/pdf/nihms278539.pdf>.

pharmacological treatment having the best empirical support.⁸⁷ These interventions incorporate some degree of 1) processing and restructuring maladaptive beliefs and assumptions related to the trauma; 2) direct exposure—either through the imagination or in vivo—to traumatic memories or feared situations associated with the trauma; or 3) the teaching of skills to help individuals cope with or manage their PTSD symptoms and co-morbid problems such as substance addiction.⁸⁸ While treatments with an exposure-based component (i.e., Prolonged Exposure and Cognitive Processing Therapy) have the greatest empirical support, certain individuals may not be able to tolerate these types of treatments because of the difficulty of discussing the traumatic stressors and tolerating traumatic cues, and for them, alternatives may need to be considered.⁸⁹

VI. CONCLUSION

During the past decade, the frequency of deployment of military service personnel has increased.⁹⁰ More frequent deployments are related to “increased involvement in [o]perations [o]ther than [w]ar, as well as actual combat scenarios.”⁹¹ “Servicemen and women may be deployed from active duty, as well as the large Reserve or National Guard positions” that represent a large portion of the modern U.S. Armed Services.⁹² The challenges inherent to the deployment of servicemen and women differ across individuals and families.⁹³ “In families [with preexisting] medical or emotional/behavioral problems . . . the deployment of a military [spouse or] parent can destabilize [an already] tenuous situation, creating significant” difficulties for both the individual and his or her family.⁹⁴

The development of PTSD is impacted by individual factors as well as pre-deployment, peritraumatic, and post-deployment risk and protective factors.⁹⁵ Whereas some individual and war-zone stressors are inevitable, one

87. *See id.* at 1.

88. *See* Lisa M. Najavits, *Seeking Safety: An Evidence-Based Model for Substance Abuse and Trauma/PTSD*, in *THERAPIST’S GUIDE TO EVIDENCE-BASED RELAPSE PREVENTION* 141, 145, 147, 151–53 (Katie Witkiewitz & G. Alan Marlatt eds., 2007); Sharpless & Barber, *supra* note 86, at 4–5.

89. *See* Peterson et al., *supra* note 85, at 168–69.

90. NAT’L CTR. FOR POST-TRAUMATIC STRESS DISORDER, DEP’T OF VETERANS AFFAIRS, *supra* note 7, at 83.

91. *Id.*

92. *Id.*

93. *Id.*

94. *Id.*

95. Hermann et al., *supra* note 71, at 2–3; Vogt et al., *supra* note 80, at 820.

of the most modifiable and important risk/protective factors relates to the support afforded to military personnel during the various phases of deployment and re-integration into their community.⁹⁶ A range of treatments are available to assist with PTSD symptoms and a large body of evidence indicates their effectiveness.

Combat is a particularly severe form of trauma that can give rise to PTSD.⁹⁷ At the same time, PTSD is a preventable and treatable mental health condition. A wealth of information concerning resources for the treatment of PTSD can be found on the National Center for PTSD website.⁹⁸

96. NAT'L CTR. FOR POST-TRAUMATIC STRESS DISORDER, DEP'T OF VETERANS AFFAIRS, *supra* note 7, at 83–84.

97. *Id.* at 11–12.

98. National Center for PTSD, U.S. DEP'T OF VETERANS AFF., <http://www.ptsd.va.gov> (last updated Apr. 21, 2013).