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## Combat Related Post Traumatic Stress Disorder in Veterans of Operation Enduring Freedom and Operation Iraqi Freedom: A Review of the Literature

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Abstract: The conflict Afghanistan and Iraq have now taken their places amongst the longest running wars in American history. As many Americans return from military service, the prevalence of combat related post traumatic stress syndrome is estimated to be as high as 30% or returning veterans. This debilitating condition impacts the individual, their family, and their community in significant ways. A variety of treatments including Cognitive Behavioral Therapy, Prolonged Exposure Therapy, and Virtual Reality Therapy have all been cited as effective interventions for this population. As our nation continues military conflict in the middle east, clinicians need to be prepared to screen and treat individuals suffering from combat related PTSD.

For much of the 21<sup>st</sup> century, the United States has been actively engaged in combat. Commonly referred to as the war on terror, the wars in Afghanistan and Iraq have played center stage in American life and politics. The war in Afghanistan, formally titled Operation Enduring Freedom(OEF) began on October 7<sup>th</sup> 2001 and continues to date. As of June, 2010 OEF is the longest lasting conflict in American history surpassing the Vietnam War which lasted 103 months from the passing of the Tonkin Gulf Resolution to the withdrawal of the last combat forces (Hampson, 2010). The war in Iraq, formally titled Operation Iraqi Freedom,(OIF) lasted approximately 103 months, beginning in March of 2003 until the withdrawal of combat troops in December of 2011 (Basu, 2011). Throughout the duration of these long conflicts, many Americans have been deployed to serve in OEF/OIF. Approximately 500,000 American soldiers have completed a tour of duty in Afghanistan, while approximately 1.5 million have served a tour of duty in Iraq since the start of the current conflicts. This count does not take into multiple tours of duty, or civilian contractors in the region supporting the military efforts (Landler & Cooper, 2011).

### **Mental Health Problems Experienced By Veterans**

Of the nearly two million soldiers returning home from OEF/OIF approximately 25% of soldiers utilizing medical benefits through the Department of Veteran Affairs (VA) have a diagnosable mental health disorder. Of the 25% of soldiers utilizing medical benefits, 56% are diagnosed with multiple mental health disorders (Seal, Bertenthal, Miner, Sen & Marmar, 2007). Among the most common disorders experienced by veterans of OEF/OIF are depression, anxiety,(Jakupcak, Cook, Imel, Fontana, Rosenheck & McFall, 2009) problematic drinking, drug use, and post traumatic stress disorder (McDevitt-Murphy, Williams, Bracken, Fields, Monahan & Murphy, 2010). Among the most prevalent is post traumatic stress syndrome(PTSD), with

approximately 1/6 veterans of OEF/OIF meeting the screening criteria (Seal, Bertenthal, Miner, Sen, & Marmar, 2007).

## **PTSD**

Post traumatic stress disorder is characterized by a history of exposure to a traumatic event and symptoms in two of the three clusters of symptoms categorized by intrusive recollections, avoidant/numbing symptoms, and hyper-arousal symptoms. It is associated with a significant decrease in daily functioning (American Psychiatric Association, 2000). Veterans experiencing PTSD are likely to report problems with their spouse or family, difficulty connecting emotionally, problems with their job, insecurity in their finances, having difficulty relating to civilian friends, and many other psychosocial stressors (Pietrzak, Goldstein, Mallery, Johnson & Southwick, 2009).

In addition to the primary symptoms of PTSD, many veterans also suffer co-occurring addictions and other mental health disorders (McDevitt-Murphy et al, 2010). Rates of comorbidity have been shown as high as 50% of those diagnosed with PTSD. (Thomas, Wilk, Riviere, McGurk, Castro & Hoge, 2010). Beyond the impact on daily life, veterans who screen positive for PTSD are four times as likely to report suicidal ideation as their peers without PTSD. Further more if a veteran experienced a co-occurring disorder in addition to PTSD, their risk increased to 5.7 times more likely than non-PTSD peers (Jakupcak, Cook, Imel, Fontana, Rosenheck & McFall, 2009). This is especially troublesome as suicidal ideation is the strongest predictor of a suicide attempt (Mann et al, 2008) PTSD is also associated with physical illness. After controlling for other variables, those diagnosed with PTSD were more likely than peer veterans to have more medical conditions and complications (Frayne et al, 2010).

The prevalence of PTSD in OEF/OIF veterans ranges from 9% to 31% depending on the level of impaired functioning reported, with approximately 20% to 30% meeting diagnostic criteria of the DSM-IV-TR 3 months after deployment (Thomas, Wilk, Riviere, McGurk, Castro & Hoge, 2010). It is estimated that 2.0-3.1 billion dollars every year is spent on PTSD treatment for veterans (Tanelian & Jaycox, 2008). A strong correlation is observed linking the degree of combat exposure to developing PTSD. Those with more combat exposure and more violent combat exposure were at an increased risk for PTSD and more likely to have more severe symptoms (Thomas et al, 2010). A dose response hypothesis has been formulated to explain the link between severity and exposure rates (Pietrzak, Goldstein, Mallery, Johnson & Southwick, 2009). Multiple studies have found that being exposed to a traumatic event at a younger age puts soldiers at an increased risk for PTSD compared to their older counter parts (Schlenger et al, 2002; Turner, Turse & Dohrenwend, 2007). National Guard soldiers are also at an increased risk of PTSD. It is hypothesized that the nature of the transition from civilian to soldier and directly back to civilian life, post deployment without the experience of non-deployed military life, contributes to this risk factor (Thomas et al, 2010).

In addition to risks associated with demographics and experience while deployed, there are a variety of risk and protective factors associated with PTSD and veterans of OEF/OIF. Veterans who maintained strong connections with other veteran peers were at a lower risk of developing PTSD. Veteran peers were found to offer a high level of support with relatively little associated stress. Across all relationship types, high social support and perceived understanding was associated with a low rate of PTSD initially but show little effect on chronic PTSD rates. (Laffaye, Cavella, Drescher & Rosen, 2008). Furthermore, the perception of greater understanding from others was associated with lower rates of PTSD even when controlling for

combat exposure and maladaptive coping strategies (Pietrzak, Harpaz-Rotem & Southwick, 2011).

Outside of external support, how an individual identifies their sense of self around their traumatic stress impacts the course of their illness. Trauma centrality, or how much memories of a traumatic event become a focal point of a person's identity and personal narrative, correlate to the severity of PTSD symptoms. Those experiencing high levels of trauma centrality are more likely to have more severe symptoms (Brown, Antonius, Kramer, Root & Hirst, 2010).

### **Barriers to Treatment**

Of those screening positive for a mental health disorder at a VA medical facility, only 23-40% seek treatment with 38-45% showing interest in seeking treatment. Those who screened positive for PTSD were twice as likely to report ce.g., concerns about stigmatization concerning treatment or identify barriers to treatment (transportation or perceived cost). The most commonly cited barriers of active duty personnel included, "I would be seen as weak, my leaders would blame me for the problem, my unit leadership might treat me differently, members of my unit might have less confidence in me, and there would be difficulty getting time off work for treatment." (Hoge et al, 2004). In veterans there is an added challenge that 40% of returning veterans return to rural or remote areas far away from military bases and VA facilities (Morlan et al, 2001). In addition, there is currently a shortage of trained mental health professionals qualified to work with combat related traumatic stress (Rosenthal, Grosswald, Ross & Rosenthal, 2011).

## **Treatment of PTSD**

### **Cognitive Behavioral Therapies**

In looking to effective treatments for PTSD in IEF/IOF veterans, many clinicians are looking to utilize various interventions in the cognitive behavioral tradition. In recent efforts by the VA to increase the utilization of evidence based treatments Cognitive Behavioral Therapies(CBT) have been implemented and meet with perceived success (Karlin et al, 2010). CBT is understood to work well with combat related PTSD when clients exhibit the characteristics of worry, self-punishment, social control, experiential avoidance, and behavioral distraction common with many OEF/OIF veterans. These cognitive coping mechanisms can decrease the cognitive flexibility necessary to cope and recover from trauma (Pietrzak, Harpaz-Rotem & Southwick, 2011). Cognitive behavioral treatments focusing on increasing self efficacy in managing stress and symptoms seems particularly effective (Benight & Bandura, 2004). As a manualized treatment, CBT has been shown to be effective in reaching veterans located in areas without accessible treatment through video conferencing. These therapies format lends itself well to digital interventions without distraction and achieving high success rates ( Morlan, Greene, Grubbs, Kloezeman, Mackintosh, Rosen & Frueh, 2001). Beyond its particular strengths, Cognitive Behavioral Therapy has been shown to be effective in reducing all clusters of symptoms to some degree (Lombardo, 2005).

Just as CBT and other second wave cognitive therapies have been shown effective in treating PTSD symptoms, third wave cognitive techniques based on mindfulness and meditation are gaining evidence in their effectiveness as well. Mindfulness was defined by Jon Kabat-Zinn as “paying attention in a particular way: on purpose, in the present moment, and nonjudgmentally” (1994). The practice includes a variety of techniques and skills used to attend to present moment thoughts, emotions, and experiences without judgment. These skills are often taught to clients as tools to help manage symptoms and are to be practiced often (Kabat-Zinn,

1994). These practices have been shown to reduce PTSD symptoms, especially those associated with avoidance. (Kearney, McDermott, Malte, Martinez & Simpson, 2012). Furthermore it is associated with beneficial neurophysiological changes associated with the reduction of PTSD symptoms (Davidson, 2003). A particular meditation practice, Transcendental Meditation, has been shown to be effective in reducing symptoms of PTSD especially the increased arousal symptoms associated with an exaggerated sympathetic response to stress and other stimuli. Reduced blood pressure and stress reactivity have been shown to be reduced alongside of other symptoms of PTSD quite substantially through the use of Transcendental Meditation. (Rosenthal, Grosswald, Ross & Rosenthal, 2011).

### **Behavioral Activation Therapy**

Behavioral activation is described as an intuitive, well tolerated, intervention suited well for both mental health and primary care facilities (Hopko, Bell, Armento, Hunt, & Lejuez, 2005). It utilizes active problem solving to negotiate barriers, promote engagement in valued activities and increase life satisfaction. The process has the client target a few select psychosocial goals and then craft strategies to negotiate the stressful processes associated with achieving the goals in a safe and calculated manner. A series of steps slowly makes progress towards these goals. The process is similar to and may in fact have some overlap with in vivo exposure strategies associated with CBT. This method has been shown effective in reducing PTSD symptoms in veterans and maintained changes through a three month follow up period (Jakupcak, Wagner, Paulson, Varra, & McFall, 2010).

### **Exposure Therapies**

Prolonged exposure has been utilized in VA facilities throughout the country in an effort to utilize evidence based treatments and has been perceived as a successful intervention (Kearney, McDermott, Malte, Martinez & Simpson, 2012). Prolonged exposure has three main components; psychoeducational, in vivo exposure, and imaginal exposure. (Rauch, DeFever, Favorite, Duroe, Garrity, Martis & Liberzon, 2009). While the procedure is described as unpleasant by many clients and has a high dropout rate (Kearney, McDermott, Malte, Martinez & Simpson, 2012), it has been shown to be effective in treating symptoms and is one of the only therapies deemed effective in treating combat related PTSD by the National Academy of Sciences (Rosenthal, Grosswald, Ross & Rosenthal, 2011). In treating chronic PTSD, prolonged exposure and other similar types of exposure both in vivo and imaginal have been shown to be most effective (Ready, Gerardi, Backscheider, Mascaro & Rothbaum, 2010).

### **Virtual Reality Therapy**

Closely related to exposure therapies lies a new technique; virtual reality therapy. This therapy provides an exposure therapy through digital technology recreating scenes similar to that of the traumatic combat event impacting the client. It has been found particularly effective in reducing symptoms of combat related PTSD and has been shown to maintain reductions throughout follow ups. Its particular strengths lie in providing a realistic exposure in any setting and provides those with avoidant behaviors an opportunity to have an exposure that imaginal techniques cannot achieve. This is a promising new therapy in combat related PTSD (Ready, Gerardi, Backscheider, Mascaro & Rothbaum, 2010).

### **Critique**

There is a strong effort in the field of medicine and behavioral health to further investigate combat related PTSD in veterans of OEF/OIF. This seems to be a response to the prevalence of this issue, its impact on our society, a patriotic sense of service, and a high level of investment from the federal government in research funding. While the effort to provide evidence based treatments calls for high quality research, which is being achieved, there are some concerns for future projects to take into account.

Demographically current research has not consistently studied population's representative of those who serve in the US Military. Racial and socioeconomic data are nearly void in the current body of research. Very few studies look past age as a mediating factor in PTSD development and treatment. More comprehensive research must be done to understand how various demographic factors play into the complex equation. We need to have a better idea of who is being exposed to traumatic combat experiences and who is left to bear the burden of PTSD after service.

Amongst the biggest holes in the research sample is gender. The body of research primarily focuses on men when discussing combat related PTSD. When looking at PTSD in women in the military the literature almost exclusively investigates military based sexual trauma, virtually ignoring combat related traumas. This is troublesome as the little existing research shows that women and men experience combat related trauma very differently. While some studies have shown that women experience combat related trauma at lower rates, when accounting for the types of combat exposure each group faced the rates are equivalent (Turner, Turse, & Dohrenwend, 2007). As the US Military moves towards a more inclusive policy on combat this issue will take center stage in both policy debates and clinical practice.

Much of the current literature focuses on clinical levels of PTSD. This does not account for the many individuals who experience subclinical distress. Limited research is starting to investigate partial PTSD or sub syndromal PTSD and its impact on health and functioning of those it impacts. Research is finding that those with partial PTSD are impacted similarly to those with the full diagnosis (Pietrzak, Goldstein, Mallery, Johnson & Southwick, 2009). This expansion in operational definitions could drastically change the prevalence rates reported and impact the type and availability of interventions for this disorder.

In future research investigations, longitudinal studies need to be considered. Many of the current investigations list only a 3-6 month follow up with a limited timeframe for treatment. As we still wrestle with issues surround PTSD and Vietnam War veterans, we are aware of the implications of chronic PTSD. We must be proactive in investigating the long term effects of the current interventions and be deliberate and proactive in our research and practice with the new generation of veterans from OEF/OIF.

Beyond looking towards longer investigations post deployment, more work must be done in coordination with the US Military to collect data in tracking soldiers from enlistment to discharge. Much of the work on PTSD exists within the VA, which only deals with individuals for a limited time post discharge. The VA also only works with those receiving military benefits often reserved for active duty members, discluding impacted civilian contractors, reserve units, and nation guard troops deployed. As the last of Operation Iraqi Freedom veterans enter civilian life and Operation Enduring Freedom continues to persist, we are still in the midst of a developing scenario where combat related PTSD infiltrates the American way of life.

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