

TRAUMATIC BRAIN INJURY: IMPACT ON VETERANS

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ABSTRACT

Traumatic brain injury (TBI) is a frequent but under diagnosed condition that is associated with a number of comorbidities. It affects countless numbers of servicemen and women who were in combat in Iraq (Operation Iraqi Freedom) and Afghanistan (Operation Enduring Freedom). TBI is a disturbance of normal brain function that occurs when the head is suddenly thrust out of position. It can be a closed or open injury. It affects the ability to think effectively. TBI co-occurs with chronic pain, PTSD, and suicide. It is unique to the individual and can present with an array of different symptoms. The pain usually manifests as a headache, nociceptive pain, or neuropathic pain. This pain usually ranges from moderate to severe. Post traumatic disorder is the result of exposure to a severe stressor that threatens one's life or physical integrity. OEF/OIF service members were exposed to high rates of trauma therefore developing Posttraumatic disorder. PTSD and depression are major mental health concerns for the patient diagnosed with traumatic brain injury. Traumatic brain injury in conjunction with chronic pain, PTSD and depression can be devastating. Veterans have a higher rate of suicide than the general population, therefore those with those with dual diagnoses are at highest risk. Clinical awareness is crucial in promoting overall well-being for these patients.

Keywords: *Traumatic brain injury, chronic pain, posttraumatic stress disorder, depression, suicide, OIF, OEF, veteran*

INTRODUCTION

Traumatic brain injury (TBI) is a significant cause for concern in today's veteran population. Operation Enduring Freedom (Afghanistan) and Operation Iraqi Freedom are two wars in United States history with a ninety percent survival rate. This is exceeding unlike any conflicts in U. S. history (Bosco, Murphy, & Clark, 2013). Today's advances in medicine, technology, and combat equipment have resulted in a decrease in fatalities. Despite these advancements, service members have sustained a multitude of combat-related injuries which include traumatic brain injury. Traumatic brain injury can be defined as a physiological disturbance of brain performance and functioning due to a traumatic incident. The symptoms include one or more of the following: alteration in mental status, memory loss, loss of consciousness, cognitive impairments, and or focal deficit (Daggett, Bakas, Buelow, Habermann, & Murray, 2013). Not only is TBI related to increased morbidity, but is related to chronic pain (Bosco et al., 2013), post-traumatic stress disorder (Crawford, Elbogen, Wagner, Kudler,

Calhoun, Brancu, & Straits-Troster, 2015), and suicidality (Brenner, Betthause, Homaifar, Villarreal, Harwood, Staves & Huggins, 2011). Veterans with TBI are not always quickly diagnosed, which ultimately delays treatment. Diagnosis does not often occur until the veteran exhibits difficulty reintegrating into society. Traumatic brain injury is either closed or open. Open injuries are more obvious and treated immediately (Daggett et al., 2013). A open head injury is due to a foreign object penetrating the dural lining of the brain (French & Parkinson, 2008). Blast injuries have been established as one of the main causes of mild TBI. Yet, TBI may result from non-blast injuries such as falls, motor vehicle accidents, gunshot wounds, or other physical trauma (Bosco et al., 2013)

Traumatic brain injury affects veterans in a multitude of ways, therefore it is imperative that nurses understand all its presentations and implications when treating returning service members for any health related problems. According to the National Institute of Health (NIH), the common symptoms of mild TBI include: headache, confusion lightheadedness, dizziness, blurred vision, ringing in the ears, tiredness, a bad taste in the mouth, a change in sleep patterns, behavior or mood changes, trouble with memory or concentration. Loss of consciousness, sensitivity to light or sound, nausea and vomiting. The NIH states that the symptoms for moderate to severe TBI are: a headache that worsens, repeated nausea and or vomiting, slurred speech, seizures, enlargement of the pupils, numbness or tingling of upper or lower extremities, loss of coordination, increased confusion, and loss of consciousness lasting a few minutes to hours (National Institute of Health, n.d). These symptoms can appear immediately or even weeks or months later.

CHRONIC PAIN AND TRAUMATIC BRAIN INJURY

It is important for nurses to understand that veterans with traumatic brain injury have multifaceted and complex concerns and needs. Traumatic brain injuries present with an array of physical, cognitive, and affective symptoms. These include cell loss, structural damage, executive functions, memory, disinhibition, and depression (Bosco, Murphy, & Clark, 2013). Physical pain can range from moderate to severe and often present as headache pain, nociceptive pain, and or neuropathic pain. Bosco, et al., (2013) include that the co-occurrence of chronic pain and TBI are two of the most common concerns among the OEF and OIF population. Chronic pain is defined as any pain lasting more than twelve weeks, it can result from an initial injury, an illness or have no clear cause (King, Beehler, & Wade, 2015) These patients often present with a wide range of complaints. Bosco, Murphy & Clark (2013), find that pain is exceedingly high in OEF/OIF service members and affects from thirty to ninety percent of those diagnosed with traumatic brain injury. The authors go on to state that most patients fully recover, yet many don't and develop a post-concussive syndrome that is characterized by headache pain, concentration and memory complaints, slower processing speed, vestibular deficits, irritable mood and sleep disturbances that may persist indefinitely. Not only do nurses have to effectively treat the patient's pain, but all the other problems that are a result of it. It becomes a vicious cycle which is all inter-related. If patients are in pain, they are unable to get adequate sleep. If

patients are sleep deprived, their pain is increased. Veterans are using an array of treatment modalities. These include non-opioid pain medications, rest, heat therapy antidepressants, opioids, topical analgesics, and biofeedback (King et al., 2015). When addressing pain, it is essential to understand that opioids are not always the most effective way to treat pain. Not only is this important for the nurse to understand but the veteran as well. Pain issue is still of major concern and is not being treated effectively. The Veterans Administration has implemented a number of programs to address the complex needs of these service members both locally and nationally (Bosco et al., 2013). Pain can be complicated by TBI, therefore it is essential for nurses to be aware of all programs and resources to offer these OIF/OEF veterans. It is imperative that nurses understand the complexity of the problem and not just treat the pain itself but the underlying factor.

POST-TRAUMATIC STRESS DISORDER AND TRAUMATIC BRAIN INJURY

Post-traumatic stress disorder is defined as an anxiety disorder related to experiencing a severe stressor generally one that threatens the life or physical integrity of self or others (Creamer, Wade, Fletcher, & Forbes, 2011). The research indicated service members returning from OEF/OIF were exposed to high rates of trauma that includes artillery, rocket or mortar fire, seeing dead bodies or human remains, being attacked or ambushed and knowing someone who was seriously injured or killed (Peterson, Luehtcke, Borah, Borah, & Young-McCaughan, 2011). Peterson, et al., (2011), also indicates that explosive devices were the most common cause for injury to those veterans and they exhibit long-term effects of PTSD. The combination of PTSD and traumatic brain injury can be overwhelming and devastating. The literature also indicates that PTSD is correlated with neurobiological consequences and can directly impact specific domains of neuropsychological functions, such as attention deficit and reduced cognitive performance (Soble, Spanierman, & Fitzgerald Smith, 2013). These veterans are having to cope with not only physical problems related to their experience in Iraq and or Afghanistan but also psychiatric. Patients with PTSD are prone to inpatient mental health treatment, depression, and substance abuse (Elhai, Kashdan, Snyder, North, Heaney & French, 2007). These patients are unable to cope with daily stressors and are often seen in the emergency department frequently. They present with an array of complaints. It is important for nurses to see their role as patient advocates and not only treat the outward manifestations but address the fundamental reason for the occurrence of the problem. Treatment for combat-related PTSD widely ranges for use of cannabinoids, group-delivered cognitive therapy, and medications as first-line interventions in the setting of a specialty clinic (Peterson et al., 2011). Although much research has been done in the area of PTSD most veterans are not receiving even the minimally adequate treatment, this is impart due to the fact that therapists have not received adequate training in evidence-based practice (Shafran, Clark, Fairborn, Arntz, Barlow & Ethers, 2009) It is important that nurses ensure patients are adequately assessed and consulted by psychiatry or mental health.

SUICIDE AND TRAUMATIC BRAIN INJURY

The suicide rate among veterans is significantly higher than that in the general population. (Brenner et al., 2011). Today's veterans are faced with a myriad of emotional and physical afflictions. Both these types of afflictions cause emotional and physical pain. Studies in regards to suicide in veterans with traumatic brain injury are limited due to the fact that the diagnoses of TBI are not always made (Brenner et al., 2011). The literature shows that in the general population there is a high correlation between rates of suicide among those with a documented history of traumatic brain injury. According to Teasdale & Engberg, (2001), the rates were 2.7 to 4.0 times higher. A person with TBI can experience devastating and life-altering complications in all aspects of life. This compounded with chronic pain, depression, low levels of social support and substance abuse is a lethal combination. After a traumatic brain injury, it is not uncommon for patients to exhibit signs and symptoms of depression, feelings of hopelessness or thoughts of suicide. Posttraumatic stress disorder, depression, and substance abuse are well known risk factors for suicidal ideation among OEF/OIF veterans (Wisico et al., 2014). The authors add that traumatic brain injury is considered a "signature injury" of OEF/OIF and gives way to increased risk. The risk of suicide attempts increases significantly after a TBI if the patient has a post injury psychiatric or emotional disturbance along with substance abuse (Simpson & Tate, 2005). Traumatic brain injury manifests itself in a variety of ways. It is unique to each individual, therefore healthcare providers must be thorough in their assessments and coordinate care appropriately. Clinical recognition is essential in the prevention of suicide.

CONCLUSION

Combats in Afghanistan and Iraq have resulted in significant amounts of service members returning with traumatic brain injuries. Traumatic brain injury can manifest with a variety of signs and symptoms. It is prevalent but is frequently under diagnosed. TBI is associated with a number of comorbidities. Survivors of traumatic brain injuries are at increased risk for development of severe, long term psychiatric and physical sequela. These include increased morbidity, chronic pain, PTSD, and suicide. The combination of these along with traumatic brain injury cause significant health problems. These patients present with multiple and complex complaints. It is necessary for the health care provider to assess the patient thoroughly and determine the cause of the complaints and treat the underlying factors. Clinical awareness is crucial for the overall well being of the patient. It is imperative for nurses to be aware of all implications, assess the patient thoroughly and make certain the patient is treated appropriately.

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