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Beth Abele

Otterbein University, beth.abele@otterbein.edu

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Effects of EDMR on Veterans With PTSD

Beth Abele BSN, RN
Otterbein University, Westerville, Ohio

Introduction



(Photo by David Apperson)

Of all the mental health disorders, the most commonly diagnosed among Iraqi and Afghanistan wars is Posttraumatic stress disorder (PTSD) (Hellmuth et al., 2012). Veterans who are suffering the effects of PTSD are treated every day in VA Medical Centers across the country, as well as in private sector hospitals. Many of these men and women are battling with drug addictions and alcohol abuse in attempts to self-medicate (Murdoch et al., 2010). According to nationally represented study by Murdoch and colleagues (2010), one fifth of individuals who have been diagnosed with PTSD use drugs, alcohol or both to treat their symptoms. Self-medicating individuals with PTSD are at a higher risk of suicide, and displaying aggressive behaviors (Murdoch et al., 2010). Veterans of the Iraq and Afghanistan wars reporting symptoms of PTSD are more likely to also report suicidal ideation and to execute aggressive acts compared to veterans without PTSD (Hellmuth et al., 2012). Reported PTSD cases in the military has risen significantly, from 120,265 in 1999 to 215,871 as of 2004. Over the same time frame compensation increased by 2.56 billion dollars as well. Cost of treatment for PTSD significantly exceeds that of any other anxiety disorder (Sharpless, & Barber, 2011). Importance of effectively treating veterans suffering with PTSD outweigh the cost. Though society has in the past turned a blind eye to the prevalence and importance of PTSD, interest is on the rise, thus increasing treatment options and availability (Sharpless & Barber, 2011). Safe and effective treatment is needed for veterans suffering from PTSD and EDMR is a safe and effective treatment for PTSD (Korn, 2009).

Signs & Symptoms

Most individuals will start to experience symptoms within three months of the traumatizing event, while others may not experience any symptoms for years (Piotrowski & Range, 2014).

Symptoms of PTSD can be grouped into the following three categories:

1. Re-experiencing –

- Reliving the trauma over and over
- Bad dreams
- Frightening thoughts

2. Avoidance –

- Avoiding any reminders of the event
- Emotionally numb
- Severe guilt, depression, or worry
- Activities that were enjoyable in the past are no longer
- Difficulty remembering the event

3. Hyper-arousal –

- Startles easily
 - Tense or on edge
 - Trouble sleeping, and/or having angry outbursts.
- (National Institute of Health Website, 2014)

Sufferers of PTSD often re-experience the disturbing events, experience intense psychological distress, which can include; panic, heart palpitations, nausea, and shakiness. PTSD often leads to feelings of detachment, and a restricted range of feelings (Piotrowski & Range, 2014).

DSM5 - 8 Criteria for Diagnosis

First set of criterion:

- Experiencing a traumatic event,
- Seeing others experience a trauma
- Hearing a loved one has experienced traumatic event
- Repeatedly hearing details or extreme exposure to traumatic events

Second set of criterion involve re-experiencing event from the first set of criterion:

- Thoughts or perception
- Images
- Dreams
- Illusions or hallucinations
- Dissociative flashback episodes
- Intense psychological distress and reactivity to reminders

Third set of criterion - avoidance of stimuli associated with the event as presented by one or both of the following:

- Avoiding conversations, feelings, or thoughts associated with the event
- Avoiding places, people or activities that trigger memories of the event

Fourth set of criteria as evidenced by two or more of the following about

- traumatic event
- Unable to remember a details about important events

- Negative thoughts about self, others, or the world
- Un-rational thoughts about consequences/cause of traumatic event
- Continuously negative emotional state
- Extreme decreased interest/ involvement important activities
- Feelings of detachment or estrangement from others
- Persistent inability to experience positive emotions

Fifth set of criteria - changes in arousal and reactivity, as demonstrated by greater than two of following:

- Angry outbursts/irritable behavior
- Reckless or self-destructive behavior
- Hypervigilance
- Increased startle response
- Difficulty concentrating
- Difficulty Sleeping

Sixth, seventh, and eighth criteria:

- Symptoms lasting more than one month
 - Visible clinical distress and/or impairs functioning
 - Cannot be attributed to any effects of a substance or other medical condition
- (Medscape, 2014)

Pathophysiology of PTSD

About 11-20% of veterans who served in Enduring Freedom and Operations Iraqi Freedom have PTSD (US Department of Veterans Affairs, 2014).

PTSD was initially referred to as "shell shock" or battle fatigue, and was first brought to light by returning war veterans.

PTSD is caused by indirect or direct exposure to a threatened, or actual trauma. Events that may lead to PTSD, include kidnapping, mugging, rape, battle, or the loss of a loved one.

Likelihood of developing PTSD depends on physical proximity and intensity of the event experienced (National Institute of Health, 2014)

When the brain is exposed to a terrifying or life-threatening event alterations occur in several neurotransmitter systems and neural structures in response to a trauma. Prefrontal cortex and the amygdala are involved due to their role in the way frightful memories are retrieved, stored, and extinguished (Piotrowski & Range, 2014).

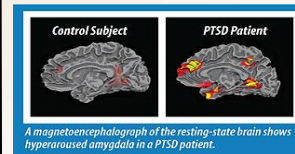


Figure 1. hyperarousal of the amygdala in PTSD (photo by Dr. Daniel Amen)

Activation of the amygdala and associated structures along with the accompanying endocrine activity, and the autonomic neurotransmitter result in many of the presenting symptoms of PTSD.

Amygdala is one of the key brain structures affected in PTSD. Research has demonstrated that fear conditioning can result from exposure to traumatic stimuli, thus activating the amygdala and the hypothalamus, periaqueductal gray, locus ceruleus, and parabrachial nucleus.

Hippocampus has a modulating effect and the orbitofrontal cortex exerts an inhibiting effect on amygdala activation. In PTSD, the orbitofrontal cortex appears to be unable to inhibit the activation. This failure may be caused by stress-induced atrophy of the nuclei in this particular area (Medscape, 2014).

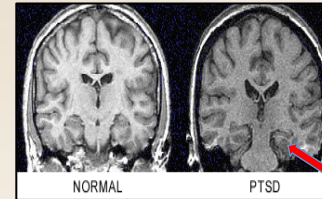


Figure 2. hippocampal volume reduction in PTSD (photo by Dr. J. D. Bremner)

Imaging studies done on combat-exposed PTSD patients show a smaller hippocampus than the control subject. The hippocampus is important in memory formation as well as endocrine functions. PTSD patients usually show low activity in the pre-frontal cortical area and increased activity in the amygdala. Thirty percent of the population diagnosed with PTSD will chronically suffer from its effects including sleep disturbances, flashback memories, and depression (Piotrowski & Range, 2014).

Complications of PTSD

During a study using treadmill stress testing myocardial ischemia was detected in 10% of 433 patients without PTSD and 17% of 233 patients with PTSD. Findings showed a significant relationship between PTSD and myocardial ischemia even after adjustment was made for other possible risk factors such as age, sex, and prior cardiovascular disease. Findings showed that the more severe the PTSD symptoms were the higher the risk was for myocardial ischemia (Vaccaro, & Bremner, 2013).

Untreated or under treated individuals over time, are susceptible to a loss of relationships and have increased risk of developing substance abuse or dependence (Murdoch et al., 2010).

According to a study reviewed by Medscape, men with PTSD reported higher onset of alcohol dependence, cravings, and problems with the law related to alcohol use (Medscape, 2014).

Another study found that 51.9% of men with PTSD concomitantly abused or were dependent on alcohol (Medscape, 2014).

What is EDMR?

Eye movement desensitization and reprocessing (EMDR) is a relatively new treatment, and combines several aspects of other therapies. EMDR works to facilitate reprocessing of traumatic experiences and information. EMDR is recognized around the world as an effective treatment for PTSD. The technique requires appropriate training and should only be used by highly skilled professionals (National Institute of Health Website, 2014).

EMDR was created by Shapiro in 1987, and involves eight phases of treatment, of which the three most significant are:

- Desensitization and reprocessing – client holds a distressing image in mind and tracks rhythmic finger movements
- Installation of positive cognitions – tracking fingers while positive thoughts are in mind
- Journaling

EMDR suggests that traumatic memories are actually not stored as memories, but are unprocessed and treated as new sensory outputs (Sharpless & Barber, 2011).

Effects of EDMR

A review was conducted of peer reviewed journal articles on the effects of EDMR therapy in patients with PTSD.

According to Wesson & Gould, EDMR is more acceptable to military personal that might be reluctant to talking therapies (2010).

EDMR sessions are based on the severity of the events leading to PTSD, and appear to be more successful with early intervention (Wesson & Gould, 2010).

Factors that contribute to effective EDMR treatment are: stable background with good upbringing, healthy support system, commitment to therapy, and early treatment (Wesson, & Gould, 2010).

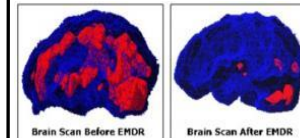


Figure 3. Brain scan pre & post treatment with EDMR (photo by Dr. Daniel Amen)

Effects of EDMR

EDMR therapy may lead to lower relapse rates (Schubert, & Lee, 2009).

A study conducted at a field hospital in Spain consisted of casualties of the Iraqi War who had been transported to the field hospital before returning stateside. The study reported all patients had expressed feeling at peace with the targeted event after their individualized EDMR treatments and felt ready to go home (Russell, 2006). Another Study resulted in EDMR alleviating PTSD symptoms significantly more than standard care, and pill placebo. And the six-month follow up showed lasting outcomes (Ponniiah and Hollon, 2009).

Implications

EDMR therapy is found to be widely accepted as an effective treatment for PTSD clients (Sharpless & Barber, 2011). EDMR may lead to lowered relapse rates when the individual experiences similar trauma due to the process of assimilation (Schubert & Lee, 2009). Effective EDMR produces a clear picture of the memories that need targeted, and is individualized to the needs of each patient (Korn, 2009). The patient is given control over their treatment and exposure to fears can be experienced in short bursts instead of a prolonged time which is typical with other therapies (Korn, 2009). Overcoming the stigma of receiving help for mental health issues is a significant issue for most men and women in the armed services (Wesson & Gould, 2009).

Conclusion

As of 2009 there are practitioners in Africa, Asia, Australia, Central and South America, Europe and North America that have adopted and are effectively using EDMR therapy (Maxfield, 2009).

EMDR allows patients to be in control of their treatment and is safe and effective way to treat PTSD. Increased effectiveness appears to be directly related to individual backgrounds and early intervention. Combat victims of PTSD along with other sufferers of PTSD deserve the best treatment possible.

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