

## Complementary and Alternative Medicine for Treatment of PTSD

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Alternative treatment approaches for post-traumatic stress disorder (PTSD) are becoming increasingly prevalent at military treatment facilities. Service members may now have access to such modalities as acupuncture, healing touch, guided imagery, meditation, yoga and surf therapy. Past research and clinical efforts have identified a number of traditional cognitive behavioral approaches and combinations to be effective in reducing PTSD. These include exposure therapy, stress inoculation training, eye movement desensitization and reprocessing, and acceptance and commitment therapy.<sup>1</sup> Although the efficacy of these treatments is well documented, the complexity of PTSD – especially when chronic in nature – makes it difficult to treat. Overall, traditional treatments help reduce such positive symptoms as hyperarousal, intrusive thoughts, nightmares and anger; however, some of these treatments do not seem to be as effective in reducing negative symptoms, such as avoidance and emotional numbing.<sup>2</sup> Complementary and alternative medicine (CAM) is often seen as a more attractive alternative by patients who reject more traditional forms of therapy and may help decrease the prevalence of treatment failure when used individually or in conjunction with previously established therapies. This paper reviews CAM for treatment of PTSD.

### *Purpose and Limits of this Review*

Because complementary and alternative treatments can include an almost infinite variety of practices, it is impossible to describe all of the applications of CAM for PTSD. Rather, this review will attempt to focus on the most widely available techniques. CAM practices are usually not regulated and often not standardized. Therefore, it may be difficult to say that a treatment that worked in one instance is the same treatment that would be offered under the same name elsewhere.

This review takes information about effectiveness from scientific trials. Most CAM techniques, however, have not been subject to such trials and instead base their claims on personal testimony or belief. A lack of evidence does not necessarily indicate that the technique is without merit, but it makes it difficult to properly evaluate the claims associated with the treatment. A comprehensive review of CAM treatment conducted in 2004 found that there was not sufficient evidence to show the efficacy of any CAM treatment for PTSD.<sup>3</sup> Since then there have been new studies that looked promising, but most claims for CAM remain unsubstantiated.

### *Acupuncture*

Most acupuncture treatments are based on principles taken from traditional Chinese medicine.

According to that model, disease is caused by a blockage of metaphysical energy known as qi (pronounced “chee”). Needles are inserted at particular points to unblock qi. Acupuncture has been best tested for the treatment of pain and nausea. Some studies have indicated that the same benefits can be obtained without penetrating the skin or by using points that do not correspond to those endorsed by traditional Chinese practice. Acupuncture is generally considered safe when administered by a trained professional using sterilized needles.<sup>4</sup> Common risks of acupuncture include pain from the needles and potential for infection. More rare complications include severe bleeding, nerve damage, stroke, kidney damage, lung collapse, bleeding around the heart and death.<sup>5</sup> Adverse events occur with 0.67% to 1.14% of treatments.<sup>6</sup> These adverse events are reported for acupuncture overall and may not reflect what happens when acupuncture is used to treat PTSD. Several practitioners have reported on individual cases or case series where acupuncture appeared to help mitigate PTSD symptoms. In 2007, a randomized controlled pilot trial was conducted in which three distinct groups were compared in order to assess the efficacy and acceptability of an acupuncture treatment program. In this study, 73 people who had previously been diagnosed with PTSD were randomized to cognitive behavior therapy, acupuncture treatment or a wait-list control condition. At the conclusion of the treatment period, those who received cognitive behavior therapy and acupuncture treatment reported similar symptom reductions. The reduction in PTSD symptoms was sustained in both treatment groups for an additional three months post-intervention.<sup>7</sup> A few studies have examined the efficacy of combining brief psychological exposure with the manual stimulation of acupuncture points in the treatment of PTSD. Results of these studies suggest that tapping on selected acupuncture points during imaginal exposure quickly and permanently reduces maladaptive fear responses to traumatic memories and related cues.<sup>8</sup> The above studies notwithstanding, limited evidence remains to support the use of acupuncture in treating PTSD. Additional support is needed before it is recommended as an acceptable alternate form of treatment.

#### *Art Therapy*

The use of art expression in trauma intervention emerged in the late 1970s. Clinicians started using drawing as a way to help survivors express details about their traumatic event and gain mastery over their feelings. Thus far, art therapy has been used to treat sexual abuse, domestic violence, school violence and homicide, war and terrorism, medical traumas and, more recently, PTSD.<sup>2</sup> Johnson and colleagues examined 15 treatment components and found that art therapy produced the greatest benefits for veterans with the most severe PTSD symptoms.<sup>9</sup> Other components -- such as group therapy, drama therapy, community service, anger management and journaling -- were more effective for those with the least severe symptoms. Art therapy shows promise, though further study is needed before it can be recommended as a stand-alone or adjunct treatment for PTSD.

#### *Exercise and Fitness*

Fitness experts tend to divide exercise activities into two categories: aerobic fitness, like running, which increases pulse and breathing, and anaerobic activity, like weight lifting, which requires quick



bursts of strength and can increase muscle strength and improve bone density. Psychologists may also pay attention to differences among solo, competitive and team activities, since group sports may form a natural type of group therapy. The benefits of exercise on overall health and psychological well-being are very well supported.<sup>10</sup> Although exercise is generally safe, patients should consult with a qualified professional before starting on a strenuous exercise program. Risks of exercise include musculoskeletal injury, heart attack or stroke in those not properly conditioned and, in some sports, the risk of severe injury or death. Studies have found that patients with PTSD tend to have decreased involvement in fitness and sports,<sup>11</sup> and becoming more involved in physical activity -- particularly aerobic activity -- lowers PTSD symptoms.<sup>12</sup> Interestingly, exercise seems more helpful for PTSD than for depression or general anxiety. No studies that we know of have compared how well exercise works compared to talk therapy interventions or if exercise adds to the benefit of other treatments.

### *Meditation*

Meditation refers to a diverse collection of practices intended to induce relaxation or alter consciousness. Meditation techniques are drawn from a variety of religious, spiritual, metaphysical and secular-scientific beliefs. Examples include transcendental meditation, yoga, mantra repetition, mindfulness meditation and many others. It is generally accepted that some meditation techniques can significantly alter pain control, blood pressure, brain activity and other physiological processes.<sup>13</sup> The extent to which this is effective when compared to traditional medicine -- and what specific techniques are needed to induce particular benefits -- is more controversial. Meditative relaxation techniques are included in a variety of best-practice therapies, including prolonged exposure and stress inoculation therapy. However, some research has indicated that the therapy techniques work as well or better when the meditative portion is removed.<sup>14</sup> Risks of meditation include the theoretical possibility that such techniques could facilitate avoidance and thus slow the progress of therapy. Studies that have examined meditation as a stand-alone technique for PTSD have been mixed. A 1981 study for “post-Vietnam adjustment” (the term PTSD was not officially accepted until 1984) found transcendental meditation was more helpful than traditional, supportive psychotherapy.<sup>15</sup> Two trials of mind-body awareness showed promise in reducing PTSD symptoms in traumatized children.<sup>16,17</sup> A trial of Vipassana meditation was successful in reducing substance use but failed to improve PTSD symptoms in adults.<sup>18</sup>

### *Mindfulness*

Mindfulness involves attending to present moment thoughts, emotions and physical sensations without being judgmental (acceptance).<sup>19</sup> Mindfulness has been negatively associated with anxiety, depression, substance abuse, chronic pain and borderline personality disorder symptoms. It has been positively associated with emotion regulation and well-being.<sup>20</sup> Although empirical validation of its utility as a PTSD treatment is needed, it has been postulated that mindfulness may aid in decreasing avoidance symptoms by facilitating approach-oriented coping; fostering client-therapist communication through

improved openness; assisting in self-regulation through increased awareness of somatic cues (breathing, heart rate, etc.); and shifting attention away from repetitive negative thinking.<sup>20</sup> One study showed that engaging in an eight-week mindfulness-based stress reduction (MBSR) course was beneficial for a group of 92 veterans. The MBSR course incorporated meditation and yoga, and results showed there was an improvement in PTSD symptoms at the six-month follow-up.<sup>19</sup> Results of a pilot study that examined two tele-health interventions suggest that mindfulness (as compared with psychoeducation) is associated with a temporary reduction in PTSD symptoms. The study treatment was only eight weeks and although more than 50 percent of those in the mindfulness treatment condition showed clinically significant change in PTSD symptoms at Time 2, reduction in symptoms was not sustained at the Time 3 (six-week follow up).<sup>21</sup> Given the benefits of mindfulness practice on helping regulate one's emotions and decreasing anxiety and depression symptoms, future studies could address the benefits of integrating mindfulness-based exercise with PTSD treatments in military populations.

### *Power Therapies*

“Power therapy” is a name used for treatments that claim advantages over traditional talk therapy based on some additional techniques, such as tapping acupuncture points, eye movements, use of special words or biofeedback-assisted “dionetics.” The treatments take their theoretical basis from a mixture of western neuroscience and linguistics, combined with a spiritual or metaphysical view. Examples include thought field therapy (TFT), emotional freedom techniques (EFT), trauma incident reduction (TIR), eye movement desensitization and reprogramming (EMDR), the Tapas acupressure technique (TAT), neurolinguistic Programming (NLP), and visual-kinesthetic dissociation (VKD).<sup>22</sup> These therapies may be applied by a variety of health-allied professions, ranging from psychologists and psychiatrists to spiritual healers. Each therapy technique has its own certification process, usually involving multiple levels of certification. The large expense (sometimes as much as \$300,000) to become certified in these techniques is one of the most common complaints against them. Risks are likely no greater than in any form of talk therapy. Several of these therapies have been tested for PTSD and shown to be superior to no treatment.<sup>22</sup> With the exception of EMDR, none of the power therapies has been successfully compared to traditional therapies for PTSD. EMDR has been found to be equally effective to best-practice treatments for PTSD, such as cognitive behavioral therapy and prolonged exposure therapy.<sup>23</sup> Studies have generally found that the eye movements in EMDR are not necessary for the treatment to be effective,<sup>24</sup> but some newer studies have challenged that idea.<sup>25</sup>

### *Nutrition*

The United States Department of Agriculture recommends a diet that includes a balance of fruits, vegetables, carbohydrates, fats and proteins (mypyramid.gov), and the United States Food and Drug Administration and other bodies have established recommended daily intakes for certain vitamins and minerals (fda.gov). Keeping within these guidelines have been associated with overall improvements in health.<sup>26</sup> Also, particular diets are recommended for specific health conditions, and some nutritionists



have advocated the use of diets or nutritional supplements to address psychological complaints. Risks of diet are specific to the diet, the nutritional supplement and the individual involved. Some extreme diets or use of very large doses of vitamins and minerals can be dangerous and occasionally lethal. Few studies of nutritional intervention for PTSD have been conducted. The only randomized trial of a particular supplement for PTSD was a test of inositol (vitamin B8) and no benefits were found compared to placebo.<sup>27</sup> One other study examined omega-3 fatty acids (fish oil) for the prevention of PTSD in accident victims. Some benefit was found, but there was no control for placebo effect.<sup>28</sup> Overall, there is insufficient evidence to recommend for or against any particular diet in PTSD.

### *Naturopathy*

Naturopathy is the use of naturally occurring substances for the treatment of disease. This may include herbal, plant preparations or animal extracts, including concentrated preparations of hormones or animal proteins. Some consider the administration of synthetically produced versions of naturally occurring hormones or bio-chemicals to be naturopathic, whereas others do not.<sup>29</sup> A relative of naturopathy is homeopathy. The term is associated with the idea that less of a substance is more effective. Homeopathic remedies are often highly diluted herbal treatments. Traditional physicians accept the idea that natural substances contain biochemically active substances that may alter disease. Some of the most commonly used pharmaceutical agents -- such as aspirin, penicillin or the heart drug digoxin -- also occur naturally. A significant criticism of naturopathic preparations is that there may be little standardization in terms of the active ingredients involved, and there have been cases of natural preparations that included highly toxic compounds. When natural substances are biochemically active, they generally include the same types of risks as synthetic medications and can cause significant side effects or medication interactions. They can also be lethal in overdose.<sup>30</sup> A wide variety of herbal compounds has been said to reduce "stress," and there are some trials that suggest an improvement in feelings of well-being with some compounds.<sup>31</sup> The herbal medication Saint John's Wort has the same biochemical mechanism as the pharmaceuticals called selective serotonin reuptake inhibitors, which are used in the treatment of PTSD.<sup>32</sup> However, to our knowledge no herbal preparation has ever been scientifically tested specifically for the treatment of PTSD.

### *Spirituality and Religion*

Every human culture has developed a supernatural view of the world that includes the possibility of physical and psychological healing. Science generally does not support or challenge the basis of these beliefs but has tested the effect of particular religious rituals or prayer on health outcomes. Some of the treatments mentioned in the meditation, acupuncture and power therapy sections are taken from religious ideologies. The overall role of religion and spirituality has also been investigated in the context of PTSD. Patients with PTSD are, on average, less likely to be religious than traumatized individuals without PTSD.<sup>33</sup> Traumatized individuals often report that their spiritual or religious beliefs are important to their recovery.<sup>34</sup> One controlled trial found a spiritual intervention helpful in combat veterans with PTSD.<sup>35</sup>

However, this was not compared to best-practice treatments, and since the subjects knew they were receiving spiritual treatment, this might only apply to individuals who are looking for a spiritual perspective.

### *Conclusion*

Current evidence regarding the successful application of alternate forms of treatment for PTSD is sparse. Most CAM treatments lack sufficient evidence to recommend them as first-line treatments for PTSD. Acupuncture, aerobic exercise and spiritually based therapy have evidence from randomized clinical trials to suggest they work, but it is not clear if they are as good as or better than other therapies. Some meditation techniques have been shown to reduce PTSD-like symptoms, particularly in children, but it is not clear how well this works in adults with the full disorder. There is insufficient evidence to recommend any particular nutritional supplement or naturopathic intervention.

It is nonetheless appropriate that novel approaches be considered, given that a substantial portion of those who receive more mainstream treatment for PTSD do not experience improvement in symptoms. Integrating alternate forms of treatment may uniquely help reduce symptoms and help patients stay engaged and continue with treatment. Lastly, continuing to incorporate certain aspects of alternative treatments, such as meditation and acupuncture, could offer cost- effective and practical ways to help patients manage symptoms once they complete their treatment.

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