

## Drug-Free Alternatives for Post-Traumatic Stress Disorder (PTSD)

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### Abstract

Stress is a primary causative factor that scientific research has shown leads directly to physical and psychological disease and disorder. For our military servicemen and women, it goes without saying that the daily stress they are under can easily develop into post-traumatic stress disorder (PTSD) by the time they return home. Current treatment options for PTSD are counseling and pharmaceuticals. Unfortunately, the pharmaceuticals bring with them an enormous risk for dangerous and deadly side effects. In most cases, both nervine and adaptogenic herbs are able to respond to the symptoms of PTSD without side effects. This paper explores herbal treatment options for PTSD that can replace selective serotonin reuptake inhibitors (SSRI) medications that support stress reactions within the body, balance the stress response in the body, relieve the symptoms of PTSD, and allow servicemen and women to return to normal lives without dangerous side effects.

**Keywords:** Post-traumatic stress disorder; Women; Herbal treatment; Adaptogenic herbs; Nervine herbs; Military; PTS

### Introduction

Scientific research has identified stress as a causative factor for many modern day illnesses. When the body is stuck in a 'fight or flight' mode, especially following a traumatic incident, the cortisol released through the adrenal glands can cause serious physical damage [1,2]. Considering the type and amount of traumatic incidents that our servicemen and women are subjected to as they battle terrorism around the world, it is no wonder about 30% of service men and women who have spent time in war zones, come home with post-traumatic stress disorder (PTSD) [3].

Conditions or presented symptoms of what is now called PTSD dates back to the Civil War when an army surgeon diagnosed soldiers with an 'irritable heart' if they were experiencing shortness of breath, dizziness, chest pains, irritability, depression or disturbed sleep patterns [4]. Ever since, times of war have renamed these same symptoms. In World War I, it was known as 'shell shock'. In World War II and the Korean War, it was 'battle fatigue' [4]. In addition to their experiences in 'theatre', the soldiers that fought in the Vietnam War had more to contend with once they arrived home. The negativity attached to the conflict left many soldiers ignored and often hated by the general public. Help of any kind was hard to come by so many soldiers turned to alcohol and drugs which presented an even larger spectrum of symptoms. In order for the Veteran's Administration to provide free treatment to these soldiers, a single classification had to be created. The American Psychiatric Association and a group of veterans joined forces and petitioned Congress. As a result, post-traumatic stress disorder (PTSD) was added to the Diagnostic Statistical Manual of Mental Disorders, Volume 3 (DSM-III) [4]. Further revisions of the DSM stretched the diagnostic criteria for PTSD to approximately 175 combinations of symptoms making some feel as if those that have truly experienced severe trauma were being overlooked for those experiencing everyday traumas [4].

The failure of the medical community to put together a clear diagnostic definition for PTSD has made it difficult to get an accurate count of the number of veterans who return from service with this disorder. In the PTSD Manual, Parrish [5] estimated that 20% of veterans that served in Korea and/or Vietnam suffer from PTSD. According to the Department of Veterans Affairs website [3], approximately 12% of the veterans engaged in Desert Storm and 11% to 20% of soldiers who

served in Operation Iraqi Freedom and Operation Enduring Freedom have or will return with PTSD.

Twenty-first century treatments for PTSD include psychiatric counseling along with prescription antidepressant medications or selective serotonin reuptake inhibitors (SSRI) to relieve the feelings of sorrow, anxiety and worry. Formally, the Food and Drug Administration (FDA) has only approved Zoloft and Paxil for PTSD along with their black-box label forewarning of an increased risk of suicide for 18-24 year olds, the most common age group for young army recruits [2]. From 2008 to 2012, mental health disorders, including PTSD, were the leading reason for the hospitalization of active-duty servicemen and women with symptoms of nervousness, insomnia, weight gain or loss, and increased feelings of depression and, sadly, suicide rates which increased 80%, with the numbers exceeding 6,500 per year [2].

There are a number of herbs that have historically, and through clinical studies, shown to have antidepressant, anti-anxiety, and sleeplessness properties that restore balance and relieve the primary symptoms presented with PTSD without the side effects of pharmaceutical medications. Therefore, it is proposed that replacing SSRI medications, utilized in the treatment of post-traumatic stress disorder, with herbs that support stress reactions within the body, balance the stress response in the body, relieve the symptoms of PTSD, and allow servicemen and women to return to normal lives without dangerous side effects. It should be noted that as herbs are considered nutritional supplements, therefore, it is not possible to theorize that they will 'cure' a person of PTSD or any other disease or disorder. Herbs can 'support' body systems, like the Central Nervous System (CNS), during types of stress. Herbs can 'balance' or restore homeostasis to the body and they can relieve the presenting symptoms of PTSD which permits individuals to live normal lives without the side effects of pharmaceutical drugs.

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## Methods

Research on this topic was conducted by using the LIRN.net database search, which included the ProQuest, ProQuest Research Companion, Directory of Open Access Journals, and PubMed databases, for full-text, peer-reviewed articles written in English from 2005 to 2015. In addition, Google Scholar, and the Google search engine were utilized using key words: Post-Traumatic Stress Disorder; PTSD AND herbs; Herbs for PTSD; PTSD AND Veteran's Administration; PTSD treatments; herbs for anxiety; adaptogens; PTSD AND *Gotu kola*; PTSD AND *Centella asiatica*; *Rhodiola rosea*; and stress management. The text book, "Medical Herbalism" by David Hoffmann (2003) was referenced.

## Results

The wide range of symptoms that modern medicine is attempting to treat when PTSD is diagnosed makes it truly impossible to single out a set treatment protocol that can be guaranteed to work for each person diagnosed. Symptoms may present as if the individual is reliving the event in the form of a nightmare or a flashback that may occur following a sensory trigger that causes a recall of the event. Attempts to avoid these triggers can place the body in a constant state of stress [3]. What used to be the fight or flight syndrome has been expanded to the fight, flight or freeze syndrome. The freeze phase is used to describe that same constant state of stress. The body's reaction to stress involves the release of several hormones which affect the brain, more specifically the hypothalamus and pituitary glands, and the autonomic nervous system. The brain releases hormones into the blood stream; they travel to the adrenal glands, completing the hypothalamic-pituitary-adrenal (HPA) axis. Once there, the release of epinephrine, cortisol, and norepinephrine is triggered [6]. When the system that releases these hormones fails to shut down as the stressful situation winds down, these excess hormones can cause physical damage within the body including high blood pressure and immune system suppression. Psychological effects are presented as depression, anxiety, irritability, nightmares, sleeplessness, flashbacks, angry outbursts, inability to concentrate, suicidal thoughts, drug or alcohol addiction, withdrawing from family, friends or the general public, and hypervigilance [6].

The failure of the medical community to put together a clear diagnostic definition for PTSD has made it difficult to get an accurate count of the number of veterans who return from service with this disorder. Prior to the Iraqi War, soldiers were sent into battle with a six month supply of pharmaceuticals based on the assumption that the situations they are placed in would require some form of treatment.

Over 180 phytochemical, clinical and pharmacological studies have been published, since 1960, on the adaptogenic properties of *Rhodiola* (*Rhodiola rosea*) confirming its 'health-promoting' qualities. *Rhodiola* (*Rhodiola rosea*) has the ability to increase serotonin in the mid-brain and hypothalamus parts of the brain [7]. A three week, placebo-controlled, double-blind crossover study with 60 participants participated in a water based Kava kava (*Piper methyscum*) extract. The results of the study determined that aqueous extracts of kava (*Piper methyscum*) provided noteworthy antidepressant and anti-anxiety action without the safety concerns of kava (*Piper methyscum*) extracts in an alcohol base [8].

Sarris, McIntyre and Camfield conducted a literature review seeking out preclinical and clinical trial data on plant based medicines for anxiety. Fifty-three plants were identified in the 1,525 papers with 21 of the plants having human clinical trial evidence. The clinical

trial evidence identified Kava kava (*Piper methyscum*), Chamomile (*Chamaemelum nobile*), Ginkgo (*Ginkgo biloba*), Skullcap (*Scutellaria laterifolia*), Milk Thistle (*Silybum marianum*), Astragalus (*Astragalus membranaceus*), Passionflower (*Passiflora incarnata*), Gotu kola (*Centella asiatica*), *Rhodiola* (*Rhodiola rosea*), Echium (*Echium vulgare*), Thryallis (*Galphimia glauca*) and Lemon balm (*Melissa officinalis*) effective with continued use for the treatment of anxiety.

## Discussion

The side effects, complications and contraindications fail to present until the individual has been taking the drug for a period of time, much longer than is required during the clinical trial phase necessary to demonstrate its efficacy and safety. As a result, nearly 50% of PTSD patients quit treatment due to the side effects of these medications [2]. The military has spent in excess of two billion dollars on pharmaceutical medications for the treatment of PTSD since 2001 [3]. Despite these frightening statistics, the Veteran's Administration continues to spend more and more money on dangerous pharmaceuticals.

The use of natural therapies, including herbal formulations, may provide a side effect free alternative to medications. Depression and anxiety, at varying levels, are measured on the Hamilton Depression Scale (HAM-D). Herbs commonly used to treat stress induced depression, potentially through the HPA axis, include American ginseng (*Panax quinquefolius*) and Asian Ginseng (*Panax ginseng*), Schisandra (*Schisandra chinensis*), St. John's wort (*Hypericum perforatum*), Rosemary (*Rosmarinus officinalis*) and Oat tops (*Avena sativa*). Additional herbs, specific for the category identified as stagnant depression, which includes PTSD and chronic situational depression include Rosemary (*Rosmarinus officinalis*), Holy Basil (*Ocimum sanctum*), and Mimosa bark (*Albizia julibrissin*) [9]. Severe symptoms with a score over 20 on the HAM-D scale may require the addition of a nervine or adaptogenic herb, including Eleuthero (*Eleutherococcus senticosus*), Licorice (*Glycyrrhiza glabra*), St. John's wort (*Hypericum perforatum*), *Rhodiola* (*Rhodiola rosea*), and/or Ashwagandha (*Withania somnifera*) [9,10]. Upwards of 50% of individuals who present with depression will also present with symptoms of anxiety, which is a constant or sudden state of worry, anticipation, or unwarranted inner turmoil. Herbs with an affinity for anxiety include Valerian (*Valeriana officinalis*), Kava kava (*Piper methyscum*), St. John's wort (*Hypericum perforatum*), Oat tops (*Avena sativa*), Bacopa (*Bacopa monnieri*), and Gotu kola (*Centella asiatica*), [9,11]. These lists are by no means inclusive, but as such note should be taken on the overlap. Many single herbs have the ability to serve those in various degrees of psychological need.

Nervine herbs have an affinity for the Central Nervous System (CNS) and are available in three primary categories: Nervine Tonics, Nervine Relaxants, and Nervine Stimulants. Lesser categories include hypnotics, antispasmodics, adaptogens, antidepressants and analgesics. The range of symptoms that make up the PTSD disorder confirms the potential for nervine herb formulations as a method of treatment. A second category of herbs that have shown efficacy for the treatment of PTSD are adaptogenic herbs. To be considered an adaptogen, an herb must meet three criteria: 1. It is nontoxic, meaning it is safe for everyone; 2. It builds up the whole body's resistance to stress, instead of having an affinity for just one body system or organ; 3. These herbs restore balance to bodily functions, no matter where the disruption began. In other words, an adaptogen operates in the body like a tuning fork does for a musical instrument. It helps bring the physical and mental aspects of the body back into homeostasis. An adaptogens

influence comes from the synergy of all the constituents within the herb. Therefore, the whole herb, or a whole herb extract, is much more potent and effective than a standardized formula [10].

## Conclusions and Recommendations

Unlike pharmaceuticals currently prescribed for PTSD, the majority of nervines and adaptogens identified previously are generally regarded as safe (GRAS) when taken according to directions. Unlike pharmaceuticals prescribed based on average statistics, herbal formulas can be individualized to meet each individual's needs. A primary adaptogen-nervine base formula could be created using the following herbs [11]:

Eleuthero (*Eleutherococcus senticosus*); Licorice (*Glycyrrhiza glabra*) or Wild Yam (*Dioscorea villosa*); Schisandra (*Schisandra chinensis*); Oat tops (*Avena sativa*); Holy Basil (*Ocimum sanctum*); and Rhodiola (*Rhodiola rosea*). *Eleutherococcus senticosus*, *Glycyrrhiza glabra*, *Dioscorea villosa*, *Schisandra chinensis* and *Avena sativa* are adaptogens with an affinity for the adrenal glands. *Ocimum sanctum* is anti-anxiety, antidepressant, and neuroprotective, specifically effective for stagnant depression, including PTSD and *Rhodiola rosea* stimulates the release of dopamine and serotonin in the brain. This herb strengthens the central nervous system adapting to both the increase and decrease of nervous system activity.

Additional anti-anxiety herbs may be added to the base formula [9]:

Kava (*Piper methysticum*); Gotu kola (*Centella asiatica*); Ashwagandha (*Withania somnifera*). All of these herbs are relaxing nervines and/or adaptogens shown to be effective in the treatment of anxiety, nervous tension, insomnia and mental exhaustion.

For veterans diagnosed with PTSD, alternative treatment options that do not come with a laundry list of side effects should be available. This type of herbal formula can easily be turned into whole herb capsules, extract, tincture, infusion or decoction – whichever type of formula works best for the individual. The restorative capabilities of

the herbs in this formula may reduce the number of veterans who are hospitalized after returning from combat. With over 6,500 servicemen and women taking their own lives each year, many as a result of the pharmaceuticals they have been prescribed, imagine how many lives could be saved.

It should be noted that serious, chronic depression can compromise and even threaten an individual's life to the point of becoming a disability. A qualified medical practitioner should always be consulted when attempting to incorporate an herb or any natural approach into a treatment plan as an alternative to prescribed medications.

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