

Resilience: The Role of Herbal Medicines for Anxiety and Depression



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Introduction

Mental health conditions are a significant public health issue. According to the National Institute of Mental Health, depression is the leading cause of disability in the United States for ages 15 to 44 and is the most common psychiatric condition worldwide, followed closely by generalized anxiety disorder. Since the 1990s, the prescribing of antidepressant drugs has steadily increased in the United States, even though the clinical efficacy of these drugs has been called into question for more than a decade. The benefits of these medications have been over-stated, leading clinicians to prescribe them for many patients who are unlikely to benefit from their use. An integrative approach, one that addresses all aspects of lifestyle, is far more likely to offer real solutions for those struggling with depression and/or anxiety. But which botanicals are best used to treat anxiety and depression and what sort of evidence is there to support their efficacy?

Building resilience

The word “resilience” can have many meanings. But in the world of integrative healthcare it refers specifically to helping patients become strong, healthy or successful again after something damaging occurs within the body. This can be particularly important when it comes to stress and depression where resilience can help bring the body and mind back to its ideal state.

But building this resilience doesn't just involve prescribing herbs for short-term fixes for depression. A great deal of this recovery process will involve adapting and returning patients to a more normalized state.

Resilience can also be achieved when a patient is able to cope with stress effectively and in a healthy manner. Good problem-solving skills and the ability to seek out help when needed promote resilience. Social support, spirituality, helping others and self-disclosure of trauma can also help build resilience.

10 ways to build resilience

The American Psychological Association has a list of 10 effective ways to build resilience. These include:

1. Maintaining good relationships with close family members, friends and others
2. Avoiding seeing crisis or stressful events as unbearable problems
3. Accepting circumstances that cannot be changed
4. Developing realistic goals and moving towards them

5. Taking decisive actions in adverse situations
6. Looking for opportunities of self-discovery after a struggle with loss
7. Developing self-confidence
8. Keeping a long-term perspective and considering the stressful event in a broader context
9. Maintaining a hopeful outlook, expecting good things and visualizing what is wished
10. Taking care of one's mind and body, exercising regularly, paying attention to one's own needs and feelings

Botanical treatment options for depression and anxiety

While there are many herbs that can help address stress and depression, adaptogenic herbs are those most commonly recognized as resilience herbs. These plants allow the body to be resilient to stress, bounce back and recover from stress and help the body to adapt. They allow the system to adapt physically to mental, emotional and physical stressors.

Rhodiola rosea

A commonly used adaptogen is Rhodiola. Rhodiola helps with fatigue, anxiety, depression, moodiness and physical and mental performance. It is neuroprotective and protects against the effects of stress, hypoxia, extreme temperatures and intense physical activity.¹

The mood regulating effects in Rhodiola rosea are most likely related to optimizing serotonin and dopamine levels due to monoamine oxidase inhibition and its influence on opioid peptides such as beta-endorphins. It is best used for mild to moderate prolonged stress related to financial, relationship or health concerns.²

¹ Winston, D.; Maimes, S. Adaptogens. Herbs for Strength, Stamina and Stress Relief, Healing Arts Press: Rochester, Vermont, USA, 2007.

² Gregory S. Kelly, ND, Alternative Medicine Review, 2001, 6(3): 293-302

Studies

A 2007 case study evaluated the overall effects of Rhodiola on depression. In the case study, subjects were given either a placebo or a high dose of Rhodiola (higher than is typically used). At the end of the study, the Rhodiola group showed improvement in sleep, overall depression and emotional instability, somatization, but not in self-esteem. The placebo group showed no such improvements. Researchers concluded that the standardized extract of Rhodiola showed anti-depressive potency in patients with mild to moderate depression when administered in dosages of either 340 or 680 mg/day over a six-week period.³



Dosage

Rhodiola can be delivered in numerous forms including liquid extract and dried root. Typical dosages are as follows:

- 4-8 ml/d liquid extract
- 200-600mg/d dried root
- 100mg of extract standardized to 3% rosavins
- A high dose would be daily intake of 1,000mg
- Mild – Moderate depression: 170mg or 340mg twice daily for six weeks⁴
- Anti-fatigue: 200mg three times a day
- Insomnia: 600mg⁵

Cautions/contraindications

Rhodiola should not be used in people with bipolar disorder because of its stimulating effects.

³ Darbinyan V, Aslanyan G, et al Clinical trial of Rhodiola rosea L. extract SHR-5 in the treatment of mild to moderate depression, Nord J Psychiatry (2007) 61(5):343-8. ISSN: 0803-9488.

⁴ Darbinyan, V. et al; A. Clinical trial of Rhodiola rosea L. extract SHR-5 in the treatment of mild to moderate depression. Nord. J. Psychiatry 2007, 61, 2343–2348

⁵ Panossian A and Wikman G, Effects of Adaptogens on the CNS and the Molecular Mechanisms Associated with Their Stress-Protective Activity, Pharmaceuticals 2010, 3,188-224; doi:10.3390/ph3010188

Depression—Organic and physiologic causes

Clearly, depression can have many causes—from food allergies, to alcohol and nicotine use, to sleep and relationship issues. Medications used to treat other health matters can also have depressive side effects. Determining the cause of a patient’s depression is crucial to developing a proper treatment plan.

Some common medical conditions that can cause depression include:

- New serious diagnosis
- Life altering/threatening illness
- Infections
- Chronic pain
- PMS, post-partum
- Perimenopause/early menopause
- MS, RA, DM, COPD,CAD, CHD, hypothyroid, insomnia, sleep apnea

Botanicals

Some of the most effective botanicals for the treatment of anxiety and depression include St. John’s wort, ginkgo, black cohosh and red clover.

St. John’s wort

St. John’s wort can be used for mild to moderate depression, major depression, seasonal affective disorder, and insomnia, as well as for viral infections like HSV, mononucleosis, influenza and HIV.^{6,7,8}

⁶ Linde et al 1996, Scharder et al 1998, Schrader 2000; Woelk 2000; Uebnelhack et al 2004; Kapser et al 2006

⁷ Martinez, et al.1994

⁸ Schulz. 1994

Studies

Initial studies indicated that the antidepressant action of St. John's wort was based on its ability to inhibit types A and B monoamine oxidase. But as time passed and more research was conducted, it was determined that the concentration of inhibitions shown were not likely to be sufficient enough to explain the clinical effects that were being seen and studied. St. John's wort demonstrates a 50% serotonin reuptake inhibition, making that the most commonly identified mechanism of action for the plant.



A 2006 Cochrane Review looked at the effects of St. John's wort on depression. The review contained 37 trials, with 26 comparisons with a placebo and 14 with a standard pharmaceutical antidepressant. Overall, the results were mixed. In the end, the best results were shown when St. John's wort was used to treat mild to moderate depression. Some benefits were shown with major depression, but the findings were less significant.

An uncontrolled study looked at the effects of St. John's wort on treating PMS. Subjects were given 300mg of St. John's wort three times a day. After taking it for two complete cycles, subjects rated their PMS. The degree of improvement was clear: the majority of subjects showed improvement in PMS symptoms. More than two-thirds of the women had at least a 50% improvement.⁹

A non-placebo controlled, drug monitoring study was conducted in women with menopause symptoms. The study found that administering 900mg of St. John's wort for 12 weeks significantly improved subjects' psychological and psychosomatic symptoms, as well as a feeling of sexual well-being.¹⁰

Safety

When considering St. John's wort, most resources advise against taking this plant with SSRIs. This is based on the theoretical concept that at least some of the mechanism of action of St. John's wort is also as an SSRI. This then, again, theoretically, could lead to an excess of serotonin and the risk of serotonin syndrome. I am not aware of any published studies on this actually occurring. In fact, over the last few years in conventional psychiatry and general practice, conventional practitioners often prescribe higher and higher doses of SSRIs and

⁹ Stevinson, Ernst. BJ Ob/Gyn 2000

¹⁰ Grube B, et al. Adv Ther 1999;16:177

often two at the same time if the response is inadequate to just one. Because of this, it is my opinion and my experience, that one SSRI, at any of the recommended doses, and even the full typical dose of St. John's wort, does not risk serotonin syndrome. I would however avoid using St. John's wort with two SSRIs, again on that same theoretical concern of the risk of serotonin syndrome.^{11,12}

Two separate publications report on a total of five case reports of patients showing the onset of mania following the use of St. John's wort extract for depression. As is the case with other antidepressants, health care professionals should screen patients for a history of hypomania or mania before prescribing St. John's wort.^{13,14}

Dosage

Standardization of St. John's wort is based on hypericin content. It is commonly administered at 0.3% hypericin at 300mg, three times a day.

Ginkgo biloba

Ginkgo biloba is an effective antidepressant. The active components in ginkgo are flavonglycosides, or heterosides. These flavonoid molecules have sugars attached to them. Ginkgo has numerous pharmacological effects. The herb inhibits lipid peroxidation of cellular membranes, stabilizes cell membranes, activates the cellular membrane sodium pump and enhances the use of oxygen and glucose. It also enhances circulation in the hippocampus and striatum, increases nerve transmission rate, improves synthesis and turnover of brain neurotransmitters and normalizes acetylcholine receptors in the hippocampus, and inhibits beta-amyloid.

Ginkgo has effects on different parts of the body. The plant has vascular effects, causing direct stimulation of the release of endothelium-derived relaxing factor and prostacyclin. It also inhibits platelet aggregation, adhesion and degranulation, and inhibits platelet-activating factor.

Studies

Ginkgo has many positive effects on PMS symptoms. One study looked at 165 women ages 18-45 with long term PMS. Subjects were given ginkgo in 80mg doses twice a day at the end

¹¹ Clin Psychiatr News 1998;26:28, Am Family Phys 1998;57:950, Pharmacother 2000;20:568-74.

¹² Annals Pharmacother 1999;33:502.

¹³ Biol Psychiatry 1999;46:1707-8

¹⁴ J Clin Psychopharmacol 2000;20:115-7

of the subjects' cycles. At the end of the study, subjects showed less breast pain or tenderness as well as improved psychological assessment.¹⁵

Another study looked at 85 women suffering from PMS. Subjects were given 40mg of a standardized ginkgo extract or placebo three times daily from day 16 of the cycle to day 5 of the next cycle. Self-administered questionnaires were used and a diagnosis of PMS had been established according to conventionally accepted criteria. At the end of the study, a significant decrease in the overall severity of symptoms and physical and psychological symptoms in both the ginkgo group (23.68%) and the placebo group (8.74%) were shown. The average decrease in the severity of symptoms was significantly more in the ginkgo group compared to the placebo group.¹⁶

Dosing

Ginkgo can be administered in a standardized extract containing 24% ginkgo flavone glycosides. Most studies recommend administering the herb in 40mg doses three times daily. Some studies suggest 80mg three times daily or 120mg twice daily. For any of these doses, it takes 12 weeks to determine effectiveness.

Cautions/contraindications

Ginkgo is well-tolerated in most healthy adults when used in recommended doses. The herb can cause allergic hypersensitivity, headache, dizziness, restlessness and seizure exacerbations. It can cause decreased blood pressure and gastrointestinal issues including mild GI discomfort, especially when taken with SSRIs.

Based on at least seven reports of potential spontaneous bleeding events (120-160mg/day for 1 week to 7 months), possible interactions have been shown with ginkgo and warfarin, aspirin, and ibuprofen. More severe events have been in individuals over 70 years of age.



¹⁵ Rev. Fr. Gynecol Obstet 88:447-57, 1993

¹⁶ J Altern and Comp Medicine 2009;15(8):845-851

Recent short-term pharmacological studies have found no effect of ginkgo (240mg/day) on INR and platelet aggregation, and also no interference with warfarin pharmacokinetics.¹⁷

Based on published case reports and pharmaco-vigilance from ginkgo extract manufacturers, researchers at the University of Exeter concluded that the ginkgo extract is unlikely to increase risk of bleeding. In the same paper, a review of 44 clinical trials with 9,772 patients was unable to find a single case of bleeding complications after ingestion of ginkgo extract.¹⁸

It is widely believed that ginkgo should be avoided in those at risk of bleeding, taking anticoagulants or those with clotting disorders. It should be avoided two to three weeks prior to surgical and surgical dental procedures. Caution should be used in those with history of seizures.

Black cohosh

Black cohosh has a possible selective estrogen receptor modifier. This has an estrogen-like effect in the brain, bone and in vaginal tissue. However, it does not act like estrogen in breast or urine tissue.¹⁹ The role of black cohosh may be centrally mediated, with possible action at the level of serotonin or dopamine receptors.²⁰

A recent double-blind randomized placebo-controlled study used a combination of black cohosh and St. John's wort. Peri- and post-menopausal women had climacteric symptoms including psychological symptoms for at least 3 months. Patients were treated with an extract of St. John's wort and black cohosh extract or a placebo for 16 weeks. The average Menopause Rating Scale score decreased 50% in the treatment group and 19.6% in the placebo group. The Hamilton Depression Rating Scale score decreased 41.8% in the treatment group and 12.7% in the placebo group. In both the general menopause rating scale and in the depression scale, the St. John's wort + black cohosh group was significantly superior to the placebo group.^{20, 21}

¹⁷ British J Clin Pharmacol 2005;59:425-32

¹⁸ Perfusion 2005;18

¹⁹ Jarry H, Harnischfeger G, Duker E. The endocrine effects of constituents of *Cimicifuga racemosa*. 2. In vitro binding of constituents to estrogen receptors. *Planta Med.* 1985 Aug;(4):316-9.

²⁰ Uebelhack R, et al. *Obstet Gynecol* 2006;107:247-255

²¹ Burdette JE, Liu J, Chen SN, et al. Black cohosh acts as a mixed competitive ligand and partial agonist of the serotonin receptor. *J Agric Food Chem.* 2003 Sep 10;51(19):5661-70.

Dosage

While dosage may vary, a typical dose of black cohosh is somewhere between 20 and 40mg once or twice a day.

Cautions/contraindications

While there are no known contraindications with black cohosh, it should be avoided during pregnancy and lactation. It should also be avoided in those with liver disease. On occasion, black cohosh can cause gastrointestinal discomfort. Overdose may also cause vertigo, headache, nausea, vomiting, impaired vision and impaired circulation.

Drug interactions

Black cohosh should be avoided with hepatotoxic drugs and with cisplatin. It can be used safely with tamoxifen or raloxifene.²²

Red clover

Red clover isn't often associated with depression treatment, but it can be effective in managing the condition. A study evaluated 109 postmenopausal women. Subjects were given either 2 capsules of red clover extract with 80mg of isoflavones or a placebo for three months. Those in the red clover group showed a 78% reduction in depression symptoms.²³

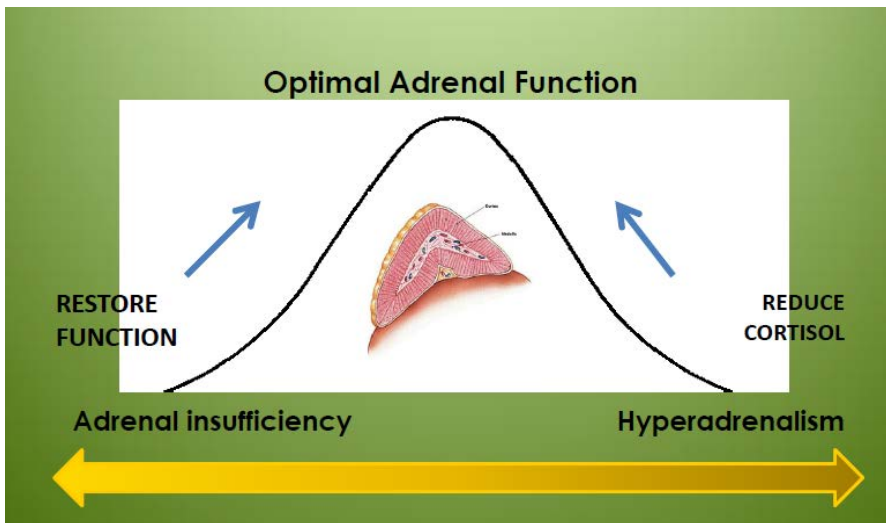
Having effective treatment options for acute episodes of anxiety is crucial. With chronic anxiety, it is important to treat any underlying causes/associations and to support stress adaptation. This can involve providing daily intervention to decrease frequency and severity of acute episodes and to improve daily comfort.

Adrenal dysregulation is commonly associated with both acute and chronic anxiety. The chart below demonstrates the continuum regarding adrenal function. As a patient progresses through the stages of adrenal exhaustion, we see an initial rise in cortisol (Stage I and beginning of stage II). This is when cortisol management/reduction becomes necessary. But as Stage II and Stage III are reached, cortisol sharply declines. In these cases of hypoadrenalism, utilization of restorative nutrients – those depleted by adrenal exhaustion – becomes necessary.

There are many different botanicals can be used to help correct this dysregulation including kava, lavender and valerian.

²² Black Cohosh. In: Bluementhal M, ed. The ABC Clinical Guide to Herbs. Austin, TX: American Botanical Council;2003:15-22.

²³ Maturitas 2010;65:258-261



Kava

Kava has historically been used to treat anorexia, seizures, depression, PMS, PMDD, URI, jet lag, seizures, UTI, dyspepsia, pain and more. Its constituents are pyrones, lactones, flavonoids and alkaloids. Kava has anticonvulsive, spasmolytic and antimycotic effects. It also has synergistic hypnotic, analgesic and local anesthetic effects. Kava has neuroprotective and recovery effects on neurologic deficits. It also helps block sodium channels and inhibits monoamine oxidase and NE uptake. It may selectively act on limbic structures.

Studies

In several studies, Kava has been shown to be beneficial in treating menopause and anxiety, improving subjects' Anxiety State Index and Hamilton Anxiety Scale score, among other benefits.^{24, 25, 26}

Dosage

Kava has been administered in 300mg doses SE three times per day in many trials. However, typical dosage ranges between 70-280mg kavalactones as a single dose or in divided doses.

²⁴ Warnecke. Zeitschrift Phytotherapie 1990;11

²⁵ Warnecke. Fortschr Med 1991;4

²⁶ De Leo. Minerva Ginecol 2000;52

Safety issues

There are some concerns regarding kava and potential hepatotoxicity, but when taken as directed, kava should pose no issues or concerns. Kava should be avoided in people with liver disease.

Lavender

Lavender oil extract has numerous benefits in treating anxiety. One randomized, double-blind, placebo-controlled multicenter study looked at more than 200 subjects with generalized anxiety disorder. Across the board, subjects had decreased anxiety, with 45% showing decreased anxiety in the lavender group and 46% showing decreased anxiety in the lorazepam group, demonstrating that botanical treatment can be as effective at treating anxiety as its pharmaceutical counterpart. Benefits were also seen much sooner in the lavender group with subjects seeing improvements in anxiety in two weeks.²⁷

Valerian

While valerian is often associated with treating sleep-related issues, it can also be effective at treating anxiety and panic disorder. It can also help with sedation, sleep quality, sleep structure and sleep latency.

The major constituents of valerian are valepotriates, lignans and alkaloids. The strong odor associated with valerian can be attributed to isovaleric acid.

The essential oils in valerian have sedative and anxiolytic properties while the valepotriates regulate the autonomic nervous system.

Studies

A small trial of 36 patients looked at valerian and generalized anxiety disorder. Comparisons were made between diazepam and a placebo. Significant improvements in the Hamilton Anxiety Scale were shown with the valerian group.²⁸

Another study looked at prescription medications and a 270mg standardized extract of valerian administered once daily. Benefits were shown to be equal between the valerian and the prescription medication.²⁹

²⁷ Int Clin Psychopharmacol 2010;25:277–87.

²⁸ Phytother Res 2002;16(7)

While the effects of valerian on its own can be extremely advantageous, combining the herb with passionflower can have added benefits. A case study showed that when subjects were given 100mg of valerian and 6.5mg passionflower or 40mg of chlorpromazine (thorazine) for six weeks, an increase in EEG alpha and theta waves were noted in both groups, but only in the valerian/passionflower group during the first two weeks.³⁰

Dosage

A concentrated root extract (5:1) containing no less than 0.5% volatile oils can be given in 300 to 500mg, 30 to 60 minutes before bedtime. Dried root can be given in 2 to 3g as an equivalent dose.

Cautions/contraindications

Common side effects associated with valerian include mild GI upset and occasional drowsiness. European monographs list no contraindications to use valerian during pregnancy or lactation, although the World Health Organization does recommend avoidance. Caution should be advised regarding concomitant use with benzodiazepines.

Conclusion

Anxiety and depression can be debilitating issues that wreak havoc on the mind and body. While there are many prescription medications designed to treat these issues, botanical treatment options can often be as effective as pharmaceuticals, without the negative side effects so commonly found in many anti-anxiety medications. From St. John's wort's ability to treat depression during PMS or menopause, to valerian's sedation and sleep normalizing effects, botanicals offer numerous benefits for issues of anxiety and depression. With the right botanical treatment plan, patients can often minimize the debilitating effects of depression and stress, without using harsh prescription medications.

Contributor

Tori Hudson, ND, graduated from the National College of Naturopathic Medicine (NCNM) in 1984 and has since served the college in several capacities including: Medical Director, Associate Academic Dean, and Academic Dean. She is currently a clinical professor at NCNM, Bastyr University, and Southwest College of Naturopathic Medicine. Dr. Hudson has over 29 years of experience and expertise in women's health utilizing nutrition, nutraceuticals, botanical medicines, bioidentical hormones, and other therapies to treat all

²⁹ KaliChemi Med Res Info Report 1992

³⁰ Naturamed 1994

gynecological and primary care conditions in women. She serves as medical director of her clinic, “A Woman’s Time” in Portland, Oregon, and is also the Program Director for the Institute of Women’s Health and Integrative Medicine.

Dr. Hudson’s exemplary work in women’s health has earned her many prestigious awards including the President’s Award from the American Association of Naturopathic Physicians for her research in women’s health, the Naturopathic Physician of the Year Award, the NCNM Alumni Pioneer Award, and the Natural Products Association 2009 Pioneer Award. Her book, *Women’s Encyclopedia of Natural Medicine*, 2008 edition is the leading resource on women’s health and natural medicine. She is a nationally recognized lecturer, author, researcher and clinician, and serves on several editorial boards and advisory panels, including on the Scientific Advisory Board of *Gaia Herbs Professional Solutions*.