

Sleep Like a Baby and Slash Stress, Anxiety and Depression

Analysis by [Dr. Joseph Mercola](#)

✓ Fact Checked

June 11, 2022

STORY AT-A-GLANCE

- › Ashwagandha is a powerful adaptogenic herb that helps your body manage and adapt to stress by balancing your immune system, metabolism and hormonal systems
- › Its anti-inflammatory, antitumor, antistress, antioxidant, immunomodulatory, hemopoietic and rejuvenating properties makes it one of the most important herbs in Ayurvedic medicine
- › Compared to placebo, ashwagandha has been shown to significantly reduce symptoms of stress in those with a history of chronic stress. While perceived stress scale (PSS) scores in the control group declined by a modest 5.5% over 60 days, the treatment group receiving ashwagandha had a 44% reduction in PSS scores
- › A 2014 systematic review of human trials concluded that treatment with ashwagandha “resulted in greater score improvements (significantly in most cases) than placebo in outcomes on anxiety or stress scales”
- › While generally safe and well-tolerated, ashwagandha is contraindicated for, and should not be used by pregnant women, breastfeeding women or people taking sedatives

This article was previously published June 13, 2019, and has been updated with new information.

Known as a multipurpose herb and "rejuvenator" used in ancient Ayurvedic¹ and Chinese medicine for thousands of years, ashwagandha² (*Withania somnifera*) is a plant native to India with a host of bioactive functions.

Ashwagandha is one of the few true adaptogenic herbs that helps your body adapt to stress³ by balancing your immune system,⁴ metabolism and hormonal systems.⁵ As noted in the medical review, "Scientific Basis for the Therapeutic Use of Withania Somnifera (Ashwagandha)":⁶

"Studies indicate ashwagandha possesses anti-inflammatory, antitumor, antistress, antioxidant, immunomodulatory, hemopoietic, and rejuvenating properties. It also appears to exert a positive influence on the endocrine, cardiopulmonary, and central nervous systems ... Toxicity studies reveal that ashwagandha appears to be a safe compound."

While some adaptogens are stimulants in disguise, this is not the case with ashwagandha. It can give your morning exercise a boost, yet when taken before bed it can help you get a good night's sleep as well. It's also capable of "intelligently" upregulating or downregulating your adrenal cortisol as needed, which makes it a valuable adjunct against stress and anxiety.

Ashwagandha Shown to Reduce Stress, Depression and Anxiety

In one placebo-controlled clinical trial,⁷ published in 2012, volunteers with a history of chronic stress who took 300 milligrams (mg) of a highly concentrated full-spectrum ashwagandha extract twice a day for 60 days reported significant reductions in stress, compared to controls who received a placebo.

While perceived stress scale (PSS) scores in the control group declined by a modest 5.5% over the 60 days, the treatment group receiving ashwagandha had a 44% reduction in PSS scores. And, as reported by the authors:⁸

"Furthermore, the decrease in the stress measure over the study period of 60 days was considerably higher in the Ashwagandha group than in the placebo group ... In the Ashwagandha group, by Day 60 there was a significant reduction in scores corresponding to all of the item-subsets:

76.1% for the 'Somatic' item-subset, 69.7% for the 'Anxiety and Insomnia' item-subset, 68.1% for the 'Social Dysfunction' item-subset, 79.2% for the 'Severe Depression' item-subset.

In contrast, in the placebo control group, the corresponding reductions in scores were much smaller: 4.9%, 11.6%, -3.7% and -10.6%, respectively. As can be readily seen, the difference is at least 58 percentage points and as high as 89 percentage points."

Blood testing also revealed the cortisol levels of the treatment group decreased by an average of 27.9% after 60 days of supplementation, while the placebo group had a reduction of just 7.9%. In conclusion, the researchers stated:⁹

"The findings suggest that high-concentration full-spectrum Ashwagandha root extract improves an individual's resistance towards stress and thereby improves self-assessed quality of life. High-concentration full-spectrum Ashwagandha root extract can be used safely as an adaptogen in adults who are under stress."

Other Studies Showing Antianxiety Benefits of Ashwagandha

Similar results were found in a 2009 study,¹⁰ in which patients diagnosed with moderate to severe anxiety lasting longer than six weeks who were treated with 300 mg of ashwagandha root for three months reported "significantly decreased" symptoms compared to those undergoing standard psychotherapy.

Beck anxiety inventory (BAI) scores decreased by 56.5% in the ashwagandha group after 12 weeks of treatment, compared to 30.5% in the psychotherapy group. According to the researchers:

"Significant differences between groups were also observed in mental health, concentration, fatigue, social functioning, vitality, and overall quality of life with the [naturopathic care] group exhibiting greater clinical benefit."

A systematic review¹¹ of five human trials published in 2014 also concluded that treatment with ashwagandha "resulted in greater score improvements (significantly in most cases) than placebo in outcomes on anxiety or stress scales."

However, while all five studies supported this conclusion, the authors noted that "Current evidence should be received with caution because of an assortment of study methods and cases of potential bias."

A fourth study,¹² this one published in 2015, found "empirical evidence to support the traditional use of [ashwagandha] to aid in mental process engaging GABAergic signaling." According to the authors:

"Our results provide evidence indicating that key constituents in [ashwagandha] may have an important role in the development of pharmacological treatments for neurological disorders associated with GABAergic signaling dysfunction such as general anxiety disorders, sleep disturbances, muscle spasms and seizures."

Main Bioactive Compounds in Ashwagandha

Flavonoids and other compounds are the active ingredients that give ashwagandha its many powerful properties. These include but are not limited to:

- **Withanolides** – Naturally occurring steroids – have been shown¹³ to suppress pathways responsible for several inflammation-based illnesses, including arthritis, asthma, hypertension, osteoporosis¹⁴ and cancer.

Withanolides in ashwagandha also have immunomodulating properties,¹⁵ described as substances that can either stimulate or suppress your immune system to help fight infections, cancer and other diseases.

- **Somniferin** – One of the alkaloids in ashwagandha, helps promote relaxation and sound sleep. A study¹⁶ at the University of Tsukuba in Japan also found it relieves related problems such as insomnia and restless leg syndrome.

- **Triethylene glycol** – Found in the leaves of the ashwagandha plant, this compound has also been shown to induce sleep and combat insomnia.¹⁷
- **Ashwagandholide** – A dimeric withanolide found in ashwagandha root – has been shown¹⁸ to inhibit growth of several types of cancer (including gastric, breast, central nervous system, colon and lung). It also inhibits inflammation by inhibiting activity and lipid peroxidation of cyclooxygenase-2,¹⁹ an enzyme that speeds up production of inflammatory prostaglandins.²⁰

The Many Health Benefits of Ashwagandha

If you suspect ashwagandha might be beneficial for other ailments beside anxiety and stress, you'd be absolutely correct. It's not considered one of the most important herbs in Ayurvedic medicine for nothing. Importantly, a number of studies have shown it can treat several diseases and disorders better than medications, without all the side effects.

For example, studies show ashwagandha has antitumor and blood production (hemopoietic) capabilities, and benefits the cardiopulmonary, endocrine and central nervous systems, all "with little or no associated toxicity."²¹ Ashwagandha has also been shown to:^{22,23,24,25,26,27}

Support healthy levels of total lipids, cholesterol and triglycerides that are already in the normal range

Enhance radiation therapy effects²⁸ by reducing tumor GSH levels.²⁹ It also reversed paclitaxel-induced neutropenia (low neutrophil count, a type of white blood cell) in mice³⁰

Counteract osteoporosis³¹ (reduced bone density)

Protect your brain from oxidative stress,³² and lower your risk of Alzheimer's^{33, 34}

Improve memory and cognitive function by slowing down the deterioration of brain cells, repairing brain cell damage and rebuilding neuronal networks and synapses

Stimulate proper thyroid function³⁵ and treat subclinical hypothyroid – In one double-blind, placebo-controlled study,³⁶ ashwagandha was pitted against some of the most popular drugs targeted for hypothyroid patients. The study involved 50 participants with elevated serum thyroid hormone (TSH), all between the ages of 18 and 50.

Divided into two groups, each was given either ashwagandha treatments or starch as a placebo for eight weeks. According to the researchers, ashwagandha effectively and significantly normalized serum thyroid stimulating hormone (TSH), T3 and T4 levels, compared to placebo, stating such treatment may be beneficial for hypothyroid patients.

As explained by Thyroid Advisor,³⁷ ashwagandha "directs THS hormone to travel to the pituitary. TSH triggers the thyroid gland to produce sufficient amounts of T4 and T3." Improved thyroid function will also help stabilize mood³⁸

Reduce blood pressure³⁹

Inhibit inflammation – In animal studies, ashwagandha was found to be more effective against inflammation than phenylbutazone⁴⁰ or hydrocortisone⁴¹

Protect nerve function and oxidation⁴²

Provide natural pain relief

Nourish and protect your liver

Increase red blood cell production

Improve adrenal function⁴³

Increase energy and endurance

Promote healthy immune function

Treatment aid for ADHD

Improve incontinence

Treatment aid for Type 2 diabetes as it helps restore insulin sensitivity

Improve conjunctivitis

Treatment aid for vitiligo

Ease symptoms of Parkinson's disease

Improve hyperglycemia

Promote longevity⁴⁴

Improve cardiovascular health – Ashwagandha helps maintain your heart health through its regulation of blood circulation. It helps prevent blood clots, and helps keep blood pressure levels within the normal range, which prevents the stress from burdening your heart⁴⁵

Maintain youthful appearance of skin – Ashwagandha increases your estrogen levels, which in turn triggers the production of collagen. This allows the skin to keep its youthful appearance and helps in the production of natural oils. It also fights off free radicals that cause wrinkles, dark spots and blemishes⁴⁶

Aid wound healing – Ashwagandha root powder can be used topically as a poultice to help treat wounds. Mix the powder with water to make a smooth paste, and apply to the wound. It will help fight off bacteria, alleviate pain and speed up the healing process

Treat arthritis – Ashwagandha has been noted in Ayurvedic manuscripts as well as

modern medicine as being an effective remedy for rheumatoid arthritis (Amavata) and osteoarthritis (Sandhi-gata Vata).⁴⁷

According to one study,⁴⁸ "Patients of rheumatoid arthritis receiving Ashwagandha root powder showed excellent response. Their pain and swelling completely disappeared. A double-blind placebo controlled study, combining Ashwagandha, turmeric and zinc showed significant improvement in pain and inflammation"

Support sexual and reproductive health in men and women – In men struggling with infertility, ashwagandha has been shown to balance their luteinizing hormone,⁴⁹ which controls reproductive organ function in both men and women. Ashwagandha can also help boost testosterone levels in men,⁵⁰ which can have a beneficial effect on libido and sexual performance.

In one placebo-controlled trial,⁵¹ men between the ages of 18 and 50 were given either a placebo or 300 mg of ashwagandha root extract twice a day in addition to participating in a strength training program. After eight weeks, those taking ashwagandha had greater increases in testosterone, muscle size and strength, compared to those taking a placebo.

It's also been shown to improve the quality of semen in infertile men,⁵² in part by inhibiting reactive oxygen species and improving essential metal concentrations, including zinc, iron and copper levels. Other research⁵³ suggests ashwagandha improves semen quality by regulating important reproductive hormones.

In otherwise healthy women, ashwagandha has been shown to improve arousal, lubrication, orgasm and overall sexual satisfaction.⁵⁴ In addition, ashwagandha's ability to rebalance hormones (including thyroid hormone, estrogen and progesterone) has been shown to improve polycystic ovary syndrome⁵⁵ and relieve symptoms associated with menopause⁵⁶

Possible Side Effects and Contraindications of Ashwagandha

While generally safe, well-tolerated and nontoxic, side effects can still occur. Memorial Sloan Kettering Cancer Center cites case reports showing side effects from ashwagandha may include:

- Nausea, headache, stomach irritation and loose stools
- Drowsiness
- Overactive thyroid
- Burning, itching and discoloration of skin/mucous membrane
- Irregular heartbeat, dizziness

While ashwagandha appears to be beneficial for thyroid problems, if you have a thyroid disorder, use caution and consult with your doctor, as you may need to tweak any medications you're taking for it. Ashwagandha is also contraindicated⁵⁷ for, and should not be used by:

- Pregnant women, as it may induce abortion
- Breastfeeding women, as it may have an effect on your child
- People taking sedatives, as ashwagandha may augment the sedative effects

Beware of Adulterated Ashwagandha Products

Needless to say, making sure you're getting a high-quality product is of utmost importance. To ensure effectiveness, I recommend using 100% organic ashwagandha root, free of fillers, additives and excipients.

Ashwagandha oil⁵⁸ is another form of ashwagandha that offers a wide variety of medicinal and practical uses. It's usually mixed with other essential oils (or diluted in a safe carrier oil). Ashwagandha oil has antioxidant properties, and may be used for topical pain relief for those with arthritis and rheumatism.

Unfortunately, adulterated ashwagandha products have been found on the market, so buyer beware. A bulletin⁵⁹ by the Botanical Adulterants Prevention Program reveals

many ashwagandha root powders and root extracts manufactured in India are being adulterated by adding leaves, stems and aerial parts of the plant, without declaring this on the label.

In some tests, up to 80% of products were found to be adulterated in this manner. The fraudulent addition of undeclared plant material is a cost-saving strategy that results in an inferior product with questionable efficacy. The take-home message is, when buying ashwagandha, it's worth doing your homework to make sure you're getting a quality product.

Addressing Anxiety Without Drugs

Getting back to anxiety, it's important to realize there are many ways to address this now pervasive problem.⁶⁰ Ideally, drugs would be your last resort, not your first, as many can cause other severe problems.

While genetics, brain chemistry, personality and life events play a role in the development of anxiety disorders, stress is a common trigger. Anxiety is a normal response to stress, but in some people the anxiety becomes overwhelming and difficult to cope with, to the point that it affects their day-to-day living.⁶¹

A number of other situations and underlying issues can also trigger or exacerbate anxiety. This includes but is not limited to the following, and addressing these issues may be what's needed to resolve your anxiety disorder. For more information about each, please follow the links provided:

Traumatic life events — Research published in 2015 concluded traumatic life experiences were the single largest determinant of anxiety and depression, followed to a lesser extent by family history of mental illness and other social factors. In the link provided, you'll find guidance on how to reprogram your body's reactions to traumatic events using a simple tapping technique

Exposure to microwave radiation — Common sources include devices like

cellphones, Wi-Fi routers, portable phones, smart meters, baby monitors and cellphone towers. Lowering your exposure to electromagnetic fields and microwaves is an important step if you're struggling with anxiety or depression as it has been shown to have a direct impact

Food additives and food dyes – Food dyes of particular concern include Blue #1 and #2 food coloring; Green #3; Orange B; Red #3 and #40; Yellow #5 and #6; and the preservative sodium benzoate

GMOs and glyphosate exposure through your diet – Most nonorganic foods are contaminated with glyphosate these days, and glyphosate has been shown to produce anxiety and depression-like behaviors in mice by affecting gut microbiota⁶²

Gut dysfunction caused by imbalanced microflora

Low vitamin D⁶³

Lack of animal-based omega-3 – Research has shown a 20% reduction in anxiety among medical students taking omega-3s⁶⁴

Lack of magnesium – Anxiety is one of a myriad symptoms of low magnesium, and as noted in the 2018 paper,⁶⁵ "The Role of Magnesium in Neurological Disorders":

"Magnesium is involved in several physiological processes in the psychoneuroendocrine system and modulates the hypothalamic pituitary adrenal (HPA) axis, along with blocking the calcium influx of NMDA glutamatergic receptors, all of which help prevent feelings of stress and anxiety"

Use of artificial sweeteners

Excessive consumption of sugar and junk food

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