SCHISANDRA
(Schisandra chinensis)

An Overview of the Research and Clinical Indications

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BACKGROUND AND USES

Schisandra, also known as Schizandra, and formally named Schisandra chinensis, is an indigenous plant in China, Korea and Russia.

For its uses within the context of various culturally based systems of medicine, Schisandra is valued for its ability to help the body manage the effects of stress, to enhance performance, and withstand adverse conditions.

In traditional Chinese medicine, it is used to increase the production of bodily fluids, and for inflammation, coughs, skin problems, and sleep problems. Recent uses in China include its use for immune system modulation and hepatic protection.

In botanical medicine traditions from around the world, certain herbs are in a category of functional use called “adaptogenic”, meaning that the herb has the reputation of helping the body to resist damage from physical and mental stressors. In clinical and healing settings, Schisandra is used for both preventing harm from stress and for treating the consequences of stress, as part of an overall rejuvenation therapy to revitalize bodily functions.

Russian medicine values the use of schisandra for its adaptogenic properties that affect physical and mental performance; these include increases in strength, endurance, and better coordination; and improved concentration and attention. This may be a direct example of benefit of its antioxidant properties, as validated by research.

ACTIVE CONSTITUENTS

A significant number of active constituents of Schisandra have been identified; these include numerous different types of lignans (plant polyphenolic substances) - schisandrin, schisandrols, schisandrels, schisantherins, wuweizisus, deoxyschisandrin, gomisins, pregomisin. Other active constituents include essential oils, vitamins A, C and E, flavonoids, citric acid, triterpenic acid, triterpenoids, and phenolic glycosides.

MECHANISM OF ACTION

Schisandra has numerous mechanisms of action. Its beneficial effects are found across quite a few categories of medicinal activities, including mitigating the effects of stress, adaptogenic effects, exercise performance effects, antioxidant effects, hepatoprotective effects, and neuroprotective effects. For the scope of this research review, this paper will focus on the anti-stress, adaptogenic and exercise performance effects.
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RESEARCH SUMMARY

Anti-stress and adaptogenic properties

One study showed benefit in the use of schisandra for a human subject who was exhausted by mental work ¹. Its use has also been studied in noticing its effects on EEG readings from rabbits experiencing acute fatigue ². A review article stated there is good scientific evidence of Schisandra’s ability to increase endurance and mental performance in patients with fatigue and weakness ³. Race horses and polo horses given standardized extracts of schisandra fruit (48g) demonstrated increased overall performance and reduced fatigue. This was measured by a lowered increase in heart rate and a faster recovery of normal breathing after the race ended ⁴. This next study was designed to test the effect of Schisandra taken over a period of time. By the tenth day of oral administration of Schisandra tincture, male albino mice showed a statistically significant increase in time running on a treadbane ⁵. Schisandra tincture increased the swimming time of these male albino mice by 135% - 159% in a test of swimming “to the limit” ⁵.

Exercise performance

In a study using mice, a combination botanical product containing Schisandra increased swimming duration and improved tolerance to oxygen deficiency ⁶. A study using male rats showed that high-intensity training, strenuous exercise and experimental navigation can suppress the pituitary-testis axis and increase blood glucose levels ⁷. After intragastric administration of Schisandra fruits, the male rats had lower blood glucose levels and experienced protection of the pituitary-testis axis via normal levels of serum testosterone ⁷. Another study using male rats investigated the effects of schisandra on the function of the pituitary-adrenal cortex axis, the gonadal axis and carbohydrate metabolism as the rats were subjected to experimental chronic psychological stress, navigation and strenuous exercise ⁸. The male rats in the group that received Schisandra had lower levels of blood sugar and corticosterone. The Schisandra group also showed that the structure of the adrenal cortex was protected, as revealed by examination after excision ⁸.

CLINICAL INDICATIONS, PRACTITIONER DOSING, CONTRAINDICATIONS AND TOXICITY

Clinical Indications

- Promote protection from effects of stress
- Improve resilience to stress and recovery from stress
- Chronic stress recovery
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- Enhanced exercise performance
- Mental fatigue
- Hepatoprotective

**Dosage range**

For general preventive therapy, the dosage range recommended in review literature is 1.5-15g of dried schisandra fruit daily for up to 100 days; 2-4mL of schisandra tincture three times daily for up to one month; 1.5-6g of schisandra powder daily; or 1.5g schisandra in capsule form daily. For use as an adaptogen, or anti-stress support, reported usage levels are 200-2,000mg schisandra extract daily; up to 4mL (or 30 drops) schisandra tincture 2-3 times daily; up to 6g crude schisandra daily; or 15g schisandra as a tea decoction daily.

**Contraindications**

Reports of adverse effects in clinical studies are not found to date.

Patients with known allergy/hypersensitivity to *Schisandra chinensis*, its constituents, or to members of the Schisandraceae family, should avoid using this botanical agent.

Based on laboratory investigation, use cautiously in:
- Patients with bleeding disorders due to proposed platelet-activating factor antagonist activity
- Use cautiously in patients with skin diseases due to schisandra’s actions as a photosensitizer *in vitro*
- Use cautiously in patients with diabetes as schisandra may cause lowering of blood glucose

**Toxicity**

There are no reports to date of toxicity with the use of Holy basil.

**CONCLUSIONS**

The overall botanical medicine benefit profile for Schisandra makes it a viable botanical agent for promoting improved resilience to stress, recovery from chronic stress and avoidance of acute and chronic stress-induced physiologic changes, improved exercise performance and recovery from mental fatigue. There is also increasing research validating its use for hepatoprotection as well, among other health benefits.
It appears to be a safe herb for medicinal use, as it has been used for hundreds of years without major incident.

ABOUT THE AUTHOR

Dr. Beverly Yates, Naturopathic Physician, graduated from the National College of Naturopathic Medicine in 1994. She is also a graduate of the Massachusetts Institute of Technology with a B. S. degree in Electrical Engineering. Dr. Yates served as the lead supervising doctor for the first ever fully accredited Naturopathic and Integrative medical residency in the state of California. Dr. Yates was a Featured Speaker for the California Naturopathic Doctors Association Integrative Medicine conference on Cardiology, presenting continuing medical education on Women and Cardiovascular Disorders.

Dr. Yates serves as a National Media Representative for the American Association of Naturopathic Physicians, appearing as an expert in natural medicine on TV shows in select metropolitan areas. She is a member of the Medical Advisory Board for Schwabe North America, and is on the Scientific Advisory Board for Gaia Herbs, Inc. and BSP Pharma, Inc. Recently, in response to Dr. Yates’ contributions to community health, she provided testimony for the Tri-Caucus of the California legislature concerning the growing impact of obesity and diabetes in communities of color around the state and the country.

Sought after for her ability to provide concise, clear explanations about medical processes and natural medicine, Dr. Yates has appeared on numerous TV broadcast networks including ABC, CBS, CNN, CW, Fox, NBC, and PBS; her radio interviews include NPR, CNN Radio, and Sirius International Satellite; and her print interviews include Essence Magazine, Good Housekeeping Magazine and Women’s World newspaper. She presents continuing medical education (CME) to physicians and other health professionals all over the country.

REFERENCES


