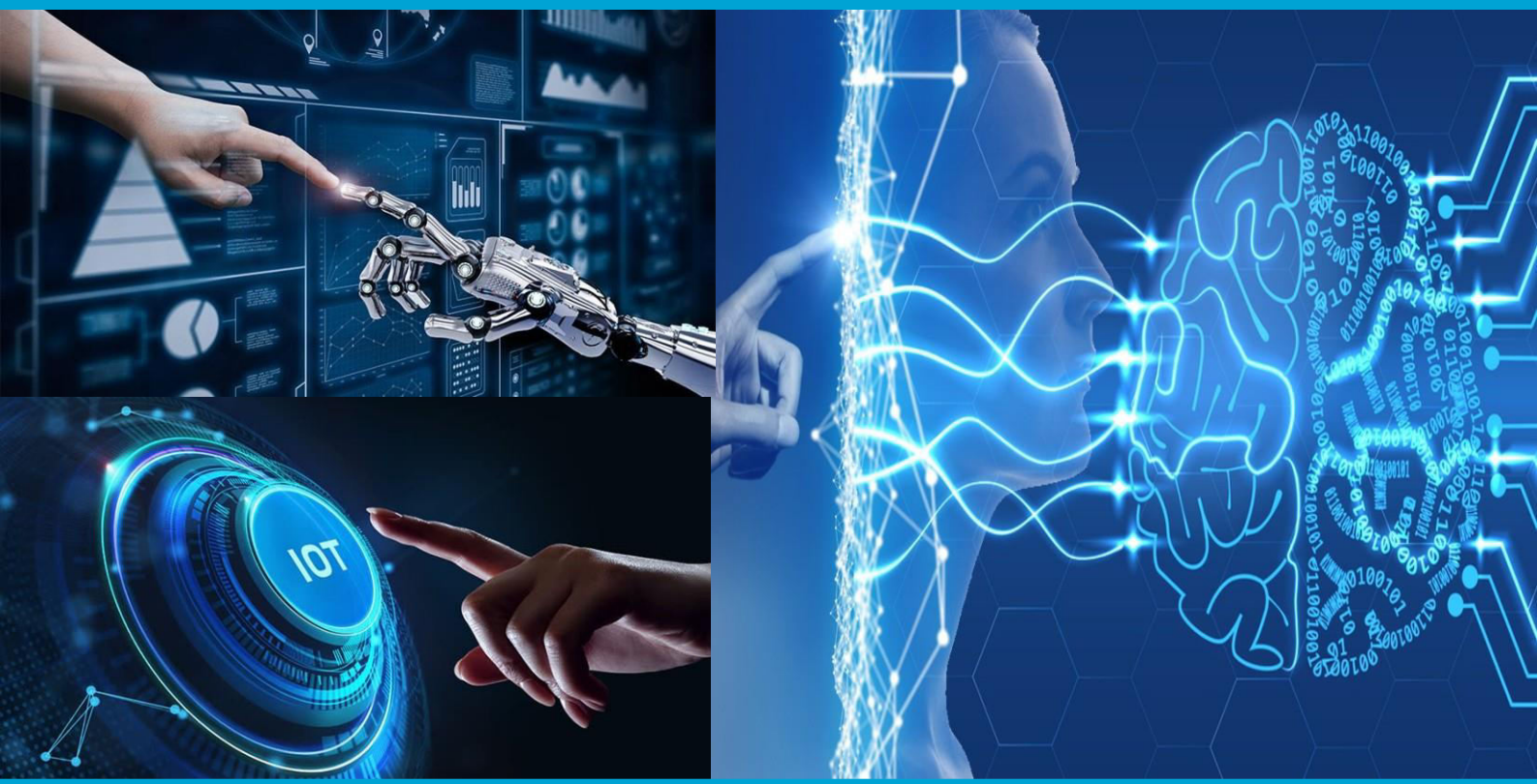
IJMRSETM

e-ISSN: 2395 - 7639



INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY RESEARCH

IN SCIENCE, ENGINEERING, TECHNOLOGY AND MANAGEMENT

Volume 8, Issue 10, October 2021

INTERNATIONAL STANDARD SERIAL NUMBER INDIA

Impact Factor: 7.580

ISSN: 2395-7639

International Journal of Multidisciplinary Research in Science, Engineering, Technology & Management (IJMRSETM)

(A Monthly, Peer Reviewed Online Journal)/Impact Factor: 7.580

Visit: www.ijmrsetm.com

Volume 8, Issue 10, October 2021

Tribal Significance of Ashwagandha & Benefits

DR. SANJAY KUMAR ACHARYA

DEPT. OF BOTANY, GOVT. DUNGAR COLLEGE, BIKANER, RAJASTHAN, INDIA

ABSTRACT: Ashwagandha is an evergreen shrub that grows in Asia and Africa. It is commonly used for stress. There is little evidence for its use as an "adaptogen."

Ashwagandha contains chemicals that might help calm the brain, reduce swelling, lower blood pressure, and alter the immune system.
Benefits
Since ashwagandha is traditionally used as an adaptogen, it is used for many conditions related to stress. Adaptogens are believed to help the body resist physical and mental stress. Some of the conditions it is used for include insomnia, aging, anxiety and many others, but there is no good scientific evidence to support most of these uses. There is also no good evidence to support using ashwagandha for COVID-19.

Don't confuse ashwagandha with Physalis alkekengi. Both are known as winter cherry. Also, don't confuse ashwagandha with American ginseng, Panax ginseng, or eleuthero.

KEYWORDS: aswagandha, uses, benefits, significance, insomnia

I. INTRODUCTION

TRIBE ORGANICS Vegan Ashwagandha KSM 66 Pure Organic Root Powder Extract Ayurvedic Supplement - Focus Mood Support Increase Energy Strength 600mg - 90 Capsules

A type of persistent anxiety marked by exaggerated worry and tension (generalized anxiety disorder or GAD). Taking ashwagandha by mouth seems to improve anxiety in people with persistent anxiety.

Insomnia. Taking ashwagandha by mouth seems to improve overall sleep and sleep quality in some people.
Stress. Taking ashwagandha by mouth seems to help reduce stress in some people. It might also help reduce stress-related weight gain.

There is interest in using ashwagandha for a number of other purposes, but there isn't enough reliable information to say whether it might be helpful.[1,2,3]

ISSN: 2395-7639

International Journal of Multidisciplinary Research in Science, Engineering, Technology & Management (IJMRSETM)

(A Monthly, Peer Reviewed Online Journal)/Impact Factor: 7.580

Visit: www.ijmrsetm.com

Volume 8, Issue 10, October 2021

Side Effects
When taken by mouth: Ashwagandha is possibly safe when used for up to 3 months. The long-term safety of ashwagandha is not known. Large doses of ashwagandha might cause stomach upset, diarrhea, and vomiting. Rarely, liver problems, including severe liver failure and a need for liver transplantation, might occur.

When applied to the skin: Lotion containing ashwagandha is possibly safe when used for up to 2 months.

Special Precautions and Warnings
Pregnancy: It is likely unsafe to use ashwagandha when pregnant. There is some evidence that ashwagandha might cause miscarriages.

Breast-feeding: There isn't enough reliable information to know if ashwagandha is safe to use when breast-feeding. Stay on the safe side and avoid use.

"Auto-immune diseases" such as multiple sclerosis (MS), lupus (systemic lupus erythematosus, SLE), rheumatoid arthritis (RA), or other conditions: Ashwagandha might cause the immune system to become more active, and this could increase the symptoms of auto-immune diseases. If you have one of these conditions, it's best to avoid using ashwagandha.

Surgery: Ashwagandha may slow down the central nervous system. Healthcare providers worry that anesthesia and other medications during and after surgery might increase this effect. Stop taking ashwagandha at least 2 weeks before a scheduled surgery.

Thyroid disorders: Ashwagandha might increase thyroid hormone levels. Ashwagandha should be used cautiously or avoided if you have a thyroid condition or take thyroid hormone medications.

Moderate Interaction[4,5,6]
Be cautious with this combination

Medications that decrease the immune system (Immunosuppressants) interacts with ASHWAGANDHA
Ashwagandha can increase the activity of the immune system. Some medications, such as those used after a transplant, decrease the activity of the immune system. Taking ashwagandha along with these medications might decrease the effects of these medications.

Sedative medications (Benzodiazepines) interacts with ASHWAGANDHA
Ashwagandha might cause sleepiness and slowed breathing. Some medications, called sedatives, can also cause sleepiness and slowed breathing. Taking ashwagandha with sedative medications might cause breathing problems and/or too much sleepiness.

Sedative medications (CNS depressants) interacts with ASHWAGANDHA
Ashwagandha might cause sleepiness and slowed breathing. Some medications, called sedatives, can also cause sleepiness and slowed breathing. Taking ashwagandha with sedative medications might cause breathing problems and/or too much sleepiness.

Thyroid hormone interacts with ASHWAGANDHA
The body naturally produces thyroid hormones. Ashwagandha might increase how much thyroid hormone the body produces. Taking ashwagandha with thyroid hormone pills might cause too much thyroid hormone in the body, and increase the effects and side effects of thyroid hormone.

Medications for diabetes (Antidiabetes drugs) interacts with ASHWAGANDHA
Ashwagandha might lower blood sugar levels. Taking ashwagandha along with diabetes medications might cause blood sugar to drop too low. Monitor your blood sugar closely.

ISSN: 2395-7639

International Journal of Multidisciplinary Research in Science, Engineering, Technology & Management (IJMRSETM)

(A Monthly, Peer Reviewed Online Journal)/Impact Factor: 7.580

Visit: www.ijmrsetm.com

Volume 8, Issue 10, October 2021

Medications for high blood pressure (Antihypertensive drugs) interacts with ASHWAGANDHA[7,8,9]
Ashwagandha might lower blood pressure. Taking ashwagandha along with medications that lower blood pressure might cause blood pressure to go too low. Monitor your blood pressure closely.

Dosing
Ashwagandha has most often been used by adults in doses up to 1000 mg daily, for up to 12 weeks. Speak with a healthcare provider to find out what dose might be best for a specific condition.

II. DISCUSSION

Ashwagandha (Withania somnifera (L.) Dunal , 1852), also known as Indian ginseng , winter cherry , poisonous gooseberry , is an evergreen shrub of the Solanaceae family . [2] [3]

The plant, in particular the extracts obtained from the roots, has been used for centuries in traditional Indian medicine and in recent years it has also seen considerable diffusion in the rest of the world as a supplement to assist the treatment of various conditions. Although its properties are recognized by many studies, at the moment there is not enough scientific evidence to recommend treatment with W. somnifera for any pathology. [4]

The traditional name ashwagandha derives from the combination of the Sanskrit words " ashva ", which means horse, and " gandha ", which means smell, reflecting the fact that the root has a strong horse odor and which according to traditional medicine instills strength and the virility of a horse. The modern Latin name somnifera emphasizes its sleep-promoting properties.

Description
This species is a short herbaceous shrub, woody at the base, 35-75 cm tall although it can reach a maximum height of170cm . The tomentose branches extend radially from a central stem. The leaves are dull green in colour, elliptical in shape, generally up to 10-12 cm long. Like the tomato, the flowers are green-yellow and the color of the fruits can vary from yellow-orange to red depending on the stage of ripeness. The plant is covered with small hairs which give it a cerulean-grey reflection.

Distribution and habitat[10,11,12]
Withania somnifera is native to the Mediterranean basin , eastern Africa and south-western Asia up to India . [1] [5] In Italy it is widespread in Sicily and Sardinia [6] .
It prefers stony and dry soil, sun to partial shade.

Phytochemistry
Ashwagandha contains around 80 bioactive compounds, especially in its roots, in particular flavonoids, glycosides, steroids and steroidal lactones and in smaller quantities, saponins and some alkaloids such as witanin, witaninine, witasomnine (the latter would favor the regularity of sleep), mixed with traces of nicotine and scopoletin. It also contains high iron which, however, being in "non-heme" form, does not have particular anti-anemic properties. Among the steroidal lactones are the withanolides , considered to be responsible for most of the plant's benefits. [7] [8] [9]

Therapeutic uses
As many as 23 different species of the Withania genus have been distinguished, of which however only Withania somnifera is considered to have medicinal properties. [10]

It is a highly prized medicinal herb in Ayurvedic medicine, where it is classified as a rasayana, which suggests that it has the ability to influence health, well-being and vitality but also as a bhalya (increases strength) and vajikara (aphrodisiac). [11] In modern terms it is defined as a tonic-adaptogen, that is, capable of improving the body's response to psychophysical stress. [12]

It is believed that many of the therapeutic effects of Ashwagandha extracts are due to their ability to influence the hypothalamic-pituitary-adrenal (HPA) axis, in particular through the reduction of cortisol (the so-called stress

ISSN: 2395-7639

International Journal of Multidisciplinary Research in Science, Engineering, Technology & Management (IJMRSETM)

(A Monthly, Peer Reviewed Online Journal)/Impact Factor: 7.580

Visit: www.ijmrsetm.com

Volume 8, Issue 10, October 2021

hormone) and the modulation of corticosteroids and neuroendocrines. [13] [14] Studies have found positive effects on anxiety and depression, [15] body weight, [16] fertility and sexual function, [17] sleep quality, [18] immune and cardiovascular systems, cognitive abilities [19] and physical performance [20] especially in the context of psychophysical stress. [21] [22] However, the therapeutic properties depend on the type of extract and its title: the different processing procedures lead to obtaining extracts with a different combination and concentration of active ingredients which therefore determine different therapeutic effects. [23] For this reason, titrated and standardized extracts (for example of the KSM-66 , Shoden and Sensoril type) are generally used in clinical studies to make the therapeutic results as replicable as possible.[13,14,15]

Side effects
Ashwagandha appears to be well tolerated although definitive research has not yet been published to confirm its safety in long-term treatment and in all classes of patients, especially those subjected to other pharmacological treatments at the same time.

Some case reports have suggested that skin rashes, changes in thyroid hormones, sedation, apathy may occur while using Ashwagandha extract supplements. Some case reports have indicated rare events of liver toxicity, which have never been confirmed in clinical trials. [24] [25] In vitro studies seem to suggest that liver toxicity may be at least partly related to withanone (a type of withanolide present in ashwagandha) which can have toxic effects in the context of low levels of the cellular antioxidant glutathione (GSH), involved in the liver's protection mechanisms from toxins.

III. RESULTS

Winter cherry or Ashwagandha (Withania somnifera) is an important medicinal plant native to India. The roots are widely used in Indian systems of medicine for more than 4000 years. The roots are credited with several medicinal properties. Recent research suggests phytochemical withaferin A present in the leaves possess antitumor activity. It is drought tolerant annual, hence is cultivated under rainfed condition in marginal soils by small and marginal farmers of Madhya Pradesh, Rajasthan, Andhra Pradesh, Karnataka and other Indian states. The ease of cultivation and high price for the roots is attracting farmers for large scale cultivation. In addition to the roots, leaves and seeds are also marketed enhancing the profits of the farmers. The future is excellent for extending its cultivation and production of numerous value added products from its roots. Ayurveda become a globally popular healthcare [16,17,18]sy stem leading to constant rise in the demand for herbal medicines resulting in increased world herbal trade which stands at US$ 120 billion and is expected to reach US$ 7 trillion by 2050. As majority of Ayurvedic medicines are plant based, this demand has resulted in a huge pressure on the traditional sources of raw materials. Obviously, the wild sources are not able to meet the demand of raw materials. To overcome this situation alternate sources of raw materials like cultivated fields are look for supply. Dwindling forest cover, unscientific and exploitative collection leads to loss of supply source and threat to germplasm. Germplasm conservation and cultivation seems to be the best way forward for sustainable utilization of medicinal plants. Ashwagandha (Withania somnifera Dunal) is widely used, prioritised Ayurvedic herb having annual demand 7000 tonnes /yr but its actual production is 1500 tonnes/yr. It grows naturally in subtropical region and is collected from wild and fields. Its r ampant collection has once leaded to critical pressure situation on its germplasm. This was noticed and a lot of effort was put in for its sustainable production. There i s lot of evidence we will discuss in the various research field of Ashwagandha like Agronomic research , Phy tochemical and Clinical research and Market Linkage . Ashwagndha due to such sustained and concerted multi - disciplinary effort has come near to a sustainable use mode. It is thus logical to extend the Ashwagandha model to other high demand medicinal plants and its feasibility.

Proponents often use ashwagandha to reduce stress and anxiety and manage several chronic conditions. However, research into the efficacy of ashwagandha for these purposes is inconclusive.

For hundreds of years, people have used the roots and orange-red fruit of ashwagandha for medicinal purposes. The herb is also known as Indian ginseng or winter cherry. The name “ashwagandha” describes the smell of its root, meaning “like a horse.” By definition, ashwa means horse.[19,20]

ISSN: 2395-7639

International Journal of Multidisciplinary Research in Science, Engineering, Technology & Management (IJMRSETM)

(A Monthly, Peer Reviewed Online Journal)/Impact Factor: 7.580

Visit: www.ijmrsetm.com

Volume 8, Issue 10, October 2021

Practitioners use this herb as a general tonic to boost energy and reduce stress and anxiety. Some also claim that the herb may be beneficial for certain cancers, Alzheimer's disease, and anxiety. However, more research is necessary to confirm the potential health benefits of this herb.

Ashwagandha is an important herb in Ayurvedic medicine. This is one of the world's oldest medical systems and one of India's healthcare systems.

In Ayurvedic medicine, ashwagandha is considered a Rasayana. This means that it helps maintain youth, both mentally and physically.

There is some evidence to suggest that the herb can have neuroprotective and anti-inflammatory effects. Inflammation underpins many health conditions, and reducing inflammation can protect the body against a variety of conditions.

For example, proponents may use ashwagandha to help treat the following:
stress
anxiety
fatigue
pain
skin conditions
diabetes
arthritis
epilepsy

Different treatments make use of different parts of the plant, including the leaves, seeds, and fruit. However, at present, there is limited evidence supporting its potential benefits in humans.

Scientific studies have suggested that ashwagandha might be beneficial for a number of conditions.
That said, researchers do not know a lot about how the herb reacts within the human body. Most studies so far have had small sample sizes and have used a variety of ashwagandha preparations. As such, further research into the possible benefits of ashwagandha is still necessary.

There is some evidence to support the use of ashwagandha for the following:
Stress and anxiety
Ashwagandha may have a calming effect on anxiety symptoms. In a 2019 study, researchers found that taking a daily dose of 240 milligrams (mg) of ashwagandha significantly reduced people's stress levels when compared with a placebo. This included reduced levels of cortisol, which is a stress hormone.
In another 2019 study, taking 250 mg or 600 mg of ashwagandha per day resulted in lower self-reported stress levels, as well as lower cortisol levels.
Although this research is promising, scientists need to collect much more data before recommending the herb to treat anxiety.
Athletic performance[18,19,20]
A 2020 systematic review and meta-analysis indicates that ashwagandha could help to improve physical performance. In particular, ashwagandha supplementation could help enhance strength, fitness, and recovery in healthy males and females.

The review suggests that consuming 300–500 mg twice per day, in the morning and before sleep, may be beneficial for individuals undergoing strenuous resistance or endurance training.

Heart health
Some people may use ashwagandha to boost their heart health, including:
lowering high blood pressure
lowering high cholesterol

ISSN: 2395-7639

International Journal of Multidisciplinary Research in Science, Engineering, Technology & Management (IJMRSETM)

(A Monthly, Peer Reviewed Online Journal)/Impact Factor: 7.580

Visit: www.ijmrsetm.com

Volume 8, Issue 10, October 2021

easing chest pain
preventing heart disease

However, there is little research in humans to support these benefits. A 2020 review highlights multiple rat studies suggesting that ashwagandha may possess cardioprotective properties.
Alzheimer's treatment

A 2020 review suggests that ashwagandha may possess neuroprotective properties and could protect against many neurodegenerative diseases including Alzheimer's, Huntington's, and Parkinson's disease.
Similarly, a 2020 review indicates that ashwagandha and other medicinal herbs could help prevent cognitive decline and restore normal cognitive function. However, it adds that further investigation is still necessary.

Cancer
Many people living with cancer may experience stress, anxiety, and fatigue. For those seeking non-pharmaceutical options for relief from these symptoms, ashwagandha may provide a suitable option.
A 2020 review suggests that ashwagandha may possess anti-cancer properties. However, there is currently not enough research to supports its use to prevent or treat cancer.

The dosage of ashwagandha and the way people use it depends on the condition they are hoping to treat. There is no standard dosage based on modern clinical trials.

Different studies have used different dosages. Some research suggests that taking 250–600 mg per day can reduce stress. Other studies have used much higher dosages.

Capsule dosages often contain between 250–1,500 mg of ashwagandha. The herb comes in the form of a capsule, powder, and liquid extract.

In some cases, taking high doses can cause unpleasant side effects. It is best to speak with a healthcare professional about safety and dosage before taking any new herbal supplements, including ashwagandha.
People can usually tolerate ashwagandha in small-to-medium doses. However, there have not been enough long-term studies to fully examine the possible side effects.

Taking large amounts of ashwagandha can lead to digestive upset, diarrhea, nausea, and vomiting. This may be due to irritation of the intestinal mucosa.

According to the National Center for Complementary and Integrative Health (NCCIH) , ashwagandha may be safe to take in the short term. There is not currently enough evidence surrounding its long-term safety.
Additionally, the NCCIH note that some Ayurvedic products may contain lead, mercury, and arsenic in levels above what experts consider to be acceptable for human daily intake.

Another potential concern for Ayurvedic herbs is that the Food and Drug Administration (FDA) do not regulate the manufacturers. This means that they are not held to the same standards as pharmaceutical companies and food producers. As such, they may contain contaminants such as heavy metals, or they may not contain the actual herb at all. People should conduct some research on the manufacturer before purchasing any product.

IV. CONCLUSION

Furthermore, evidence advises that ashwagandha may not be suitable for the following individuals:

- pregnant people
- those about to have surgery
- those with thyroid or autoimmune disorders
- those with hormone-sensitive prostate cancer

ISSN: 2395-7639

International Journal of Multidisciplinary Research in Science, Engineering, Technology & Management (IJMRSETM)

(A Monthly, Peer Reviewed Online Journal)/Impact Factor: 7.580

Visit: www.ijmrsetm.com

Volume 8, Issue 10, October 2021

- those taking certain medications, such as immunosuppressants, anticonvulsants, thyroid hormone drugs, or medications for diabetes and hypertension[20]

REFERENCES

1. (EN) Khela, S. 2013, Withania somnifera , on IUCN Red List of Threatened Species , Version 2020.2, IUCN , 2020. URL consulted on 24/4/2019 .
2. ^ (EN) Withania somnifera , on Plants of the World Online , Royal Botanic Gardens, Kew. URL consulted on 4/24/2019 .
3. ^ Withania somnifera (L.) Dunal GRIN - Global , on npgsweb.ars-grin.gov . URL consulted on 15 April 2019 .
4. ^ Ashwagandha : MedlinePlus Supplements , on medlineplus.gov . URL consulted on 15 April 2019 .
5. ^ Withania somnifera (L.) Dunal GRIN - Global , on npgsweb.ars-grin.gov . URL consulted on 15 April 2019 .
6. ^ Fact sheet from Acta Plantarum , at actaplantarum.org . URL consulted on 04/24/2019 .
7. ^ Feis - Withania Somnifera , on feis.it (archived from the original URL on 27 January 2019) .
8. ^ Subhabrata Paul, Shreya Chakraborty and Uttpal Anand, Withania somnifera (L.) Dunal (Ashwagandha): A comprehensive review on ethnopharmacology, pharmacotherapeutics, biomedicine and toxicological aspects , in Biomedicine & Pharmacotherapy = Biomedecine & Pharmacotherapie , vol. 143, 2020-11, pp. 112175, DOI : 10.1016/j.biopha.2020.112175 . URL consulted on 15 April 2019 .
9. ^ Bruno Brigo, Health and well-being with plants in the 7 ages of man , San Giovanni Lupatoto, Gribaudo, 2009, p. 77, ISBN 978-88-7906-861-1 .
10. ^ Withania somnifera - Plant factsheet , on Natural1 . URL consulted on 1 July 2013 (archived from the original URL on 4 March 2016) .
11. ^ Manjeshwar Shrinath Baliga, Sharake Meera and Lalit Kumar Vaishnav, Rasayana drugs from the Ayurvedic system of medicines as possible radioprotective agents in cancer treatment , in Integrative Cancer Therapies , vol. 12, no. 6, 2013-11, pp. 455–463, DOI : 10.1177/1534735413490233 . URL consulted on 15 April 2019 .
12. ^ S. K. Kulkarni and Ashish Dhir, Withania somnifera: an Indian ginseng , in Progress in Neuro-Psychopharmacology & Biological Psychiatry , vol. 32, no. 5, 1 July 2008, pp. 1093–1105, DOI : 10.1016/j.pnpbp.2007.09.011 . URL consulted on 15 April 2019 .
13. ^ Adrian L. Lopresti, Stephen J. Smith and Peter D. Drummond, Modulation of the hypothalamic-pituitary-adrenal (HPA) axis by plants and phytonutrients: a systematic review of human trials , in Nutritional Neuroscience , vol. 25, no. 8, 2019-08, pp. 1704–1730, DOI : 10.1080/1028415X.2020.1892253 . URL consulted on 15 April 2019 .
14. ^ LC Mishra, BB Singh and S. Dagenais, Scientific basis for the therapeutic use of Withania somnifera (ashwagandha): a review , in Alternative Medicine Review: A Journal of Clinical Therapeutic , vol. 5, no. 4, 2000-08, pp. 334–346. URL consulted on 15 April 2019 .
15. ^ Jaysing Salve, Sucheta Pate and Khokan Debnath, Adaptogenic and Anxiolytic Effects of Ashwagandha Root Extract in Healthy Adults: A Double-blind, Randomized, Placebo-controlled Clinical Study , in Cureus , vol. 11, no. 12, 25 December 2019, pp. e6466, DOI : 10.7759/cureus.6466 . URL consulted on 15 April 2019 .
16. ^ Adrian L. Lopresti, Peter D. Drummond, and Stephen J. Smith, A Randomized , Double-Blind, Placebo-Controlled, Crossover Study Examining the Hormonal and Vitality Effects of Ashwagandha (Withania somnifera) in Aging, Overweight Males , in American Journal of Men's Health , vol. 13, no. 2, 2019-03, pp. 155798831983598, DOI : 10.1177/1557988319835985 . URL consulted on 15 April 2019 .
17. ^ Swati Dongre, Deepak Langade and Sauvik Bhattacharyya, Efficacy and Safety of Ashwagandha (Withania somnifera) Root Extract in Improving Sexual Function in Women: A Pilot Study , in BioMed Research International , vol. 2015, 2015, pp. 1–9, DOI : 10.1155/2015/284154 . URL consulted on 29 April 2019 .
18. ^ (EN) Office of Dietary Supplements - Ashwagandha: Is it helpful for stress, anxiety, or sleep? , www.ods.od.nih.gov . URL consulted on 29 April 2019 .
19. ^ A. Remenapp, K. Coyle and T. Orange, Efficacy of Withania somnifera supplementation on adult's cognition and mood , in Journal of Ayurveda and Integrative Medicine , vol. 13, no. 2, 2019, pp. 100510, DOI : 10.1016/j.jaim.2020.08.003 . URL consulted on 15 April 2019 .
20. ^ Diego A. Bonilla, Yurany Moreno and Camila Gho, Effects of Ashwagandha (Withania somnifera) on Physical Performance: Systematic Review and Bayesian Meta-Analysis , in Journal of Functional Morphology and Kinesiology , vol. 6, no. 1, 11 February 2020, pp. 20, DOI : 10.3390/jfmk6010020 . URL consulted on 15 April 2019 .

ISSN: 2395-7639

International Journal of Multidisciplinary Research in Science, Engineering, Technology & Management (IJMRSETM)

(A Monthly, Peer Reviewed Online Journal)/Impact Factor: 7.580

Visit: www.ijmrsetm.com

Volume 8, Issue 10, October 2021

Impact Factor: 7.580

INTERNATIONAL JOURNAL
OF MULTIDISCIPLINARY RESEARCH
IN SCIENCE, ENGINEERING, TECHNOLOGY AND MANAGEMENT

+91 99405 72462 +91 63819 07438 ijmrsetm@gmail.com