



CODEN [USA]: IAJPBB

ISSN : 2349-7750

**INDO AMERICAN JOURNAL OF
PHARMACEUTICAL SCIENCES**

SJIF Impact Factor: 7.187

<https://doi.org/10.5281/zenodo.5648451>Available online at: <http://www.iajps.com>

Review Article

**ASHWAGANDHA (WITHANIA SOMNIFERA): BOOST
TESTOSTERONE AND INCREASE FERTILITY IN MEN**¹Raju K. Dhavale*, ²H.V. Kamble, ³Ashvini Andhale, ⁴Santosh WaghmareDepartment of Pharmacology, Loknete Shri Dadapatil Pharate College of Pharmacy Mandavgan
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Pune- 412211, saw.lsdp@gmail.com,**Article Received:** October 2021**Accepted:** October 2021**Published:** November 2021**Abstract:**

Ashwagandha (Withania somnifera) has been used for thousands of years in Ayurvedic medicine and it's well known for its rejuvenating and adaptogenic properties. It is a suppliment may have powerful effect on testosterone levels and reproductive health, regulating the immune system, relieving stress, increasing energy levels and improving concentration. It has gained a solid reputation for boosting testosterone. In studies have shown that supplementation with Ashwagandha in men led to a significant increase in testosterone levels, improve sperm quality and higher anti-oxidant levels. Infertility affects 15% of all couples, and approximately 50% of these have an abnormality detectable in the male partner as the cause of infertility. W. somnifera have been shown to inhibit lipid peroxidation in stress-induced animals. Earlier studies have shown that aqueous extract of this plant elicits changes in pituitary gonadotropins. W. somnifera induced testicular development and spermatogenesis in immature Wistar rats by directly affecting the somniferous tubules. Ashwagandha has been found to inhibit lipid peroxidation, improve sperm count and motility and regulate reproductive hormone levels.

Keywords: *Withania somnifera, Testosterone hormone, Male infertility, Semen quality.***Corresponding author:****•Raju K. Dhavale*:**

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Please cite this article in press Raju K. Dhavale et al, *Ashwagandha (Withania Somnifera): Boost Testosterone and Increase Fertility in Men*, Indo Am. J. P. Sci, 2021; 08(11).

INTRODUCTION:

Ashwagandha (*Withania somnifera*, fam. *solanaceae*) is commonly known as "Indian Winter cherry" or "Indian ginseng". It is one of the most important herb of Ayurveda (the traditional system of medicine in India) used for millennia as a Rasayana for its wide ranging health benefits. Rasayana is described as an herbal or metallic preparation that promotes a youthful state of physical and mental health and expand happiness [1]. It is an important medicinal plant that has been used in Ayurvedic and Indigenous medicine for over 3,000 years. Ashwagandha plant is a small shrub with yellow flowers that's native to India and North Africa. Extracts or powder from the plants root or leaves are used to treat a variety of conditions. Many of its health benefits are attributed to its high concentration of withanolides, which have been shown to fight inflammation and tumor growth [2]. Ashwagandha is a supplements may have powerful effects on testosterone levels and reproductive health. It is perhaps best known for its ability to reduce stress. A few studies suggest Ashwagandha may help alleviate depression, Improve body composition and increase strength, it's helps to decrease inflammation, help to improve heart health by reducing cholesterol and triglyceride levels [3-7].



Fig 1: Ashwagandha (*Withania somnifera*)

A testosterone booster:

Testosterone is mainly a male hormone, although it is also present in women at lower levels and is responsible for the same important health benefits. Levels of testosterone typically reduce with age, but it can also be affected by life circumstances, such as chronic stress, at any age. Common signs of low testosterone include reduced sex drive, fatigue, erectile dysfunction, increased body fat, loss of muscle and bone mass, and mood changes [8]. Ashwagandha has gained a solid reputation for

boosting testosterone, which is why we often include it in our Testosterone Replacement Therapy (TRT) treatment plans, along with testosterone boosting foods for optimal results. Studies have shown that supplementation with ashwagandha in men led to a significant increase in testosterone levels, improved sperm quality, and higher antioxidant levels [9].

Boost for Male infertility:

Infertility may be defined as failure to conceive by a couple after 12 months of unprotected sexual intercourse [10]. Infertility affects 15% of all couples, and approximately 50% of these have an abnormality detectable in the male partner as the cause of infertility. Specific adirected treatment for male infertility is not available owing to the unexplained and heterogeneous nature of the disorders [11]. In the Ayurveda and Unani systems of medicine practiced in India, several plants and plant products have been documented to fight against stress, impotence, infertility, and the aging process [12]. *Withania somnifera*, also known as Indian ginseng, has been described in folk medicine as an aphrodisiac and geriatric tonic. Different investigators have reported that *W. somnifera* possesses antiserotogenic, anticancer, and anabolic activity and is beneficial in the treatment of arthritis, geriatric problems, stress, and male sexual dysfunction. It also possesses adaptogenic, cardiotropic, cardioprotective, and anticoagulant properties [13]. *W. somnifera* has been shown to inhibit lipid peroxidation in stress-induced animals [14]. Earlier studies have shown that aqueous extract of this plant elicits changes in pituitary gonadotropins coupled with an enhancement in epididymal sperm pattern in adult male rats and folliculogenesis in immature female rats [15]. *W. somnifera* induced testicular development and spermatogenesis in immature Wistar rats by directly affecting the seminiferous tubules [16]. In view of the above considerations, the present study was undertaken to investigate the impact of *W. somnifera* on semen profile, oxidative biomarkers, and reproductive hormone levels of infertile men [17]. Hence, the present study aims to investigate the usefulness of a highly concentrated, full - spectrum root extract Ashwagandha as a suitable herbal supplement in treating male infertility.

CONCLUSION:

From supplement like Ashwagandha to simple changes to your habits, our complete guide to increasing testosterone lists a wide range of techniques that you can use to boost your body's testosterone production. Ashwagandha may also be able to the help men struggling with infertility. The

root doesn't just boost levels of this reproductive hormone. It may also make significant improvements to semen quality by increasing sperm count and motility in men with infertility.

REFERENCES:

- [1] Singh N, Bhalla M, Jager PD, Gilca M. An Overview on Ashwagandha: A Rasayana (Rejuvenator) of Ayurveda, *Afr J Tradit Complement Altern med.* 2011;8(5 Suppl): 208-213.
- [2] Mirjalili MH, Moyano E, Bonfill M, Cusido RM and Palazon J. Steroidal lactones from *Withania somnifera*, an Ancient plant for Novel medicine molecules 2009, 14(7), 2373-2393.
- [3] Candelario M, Cuellar E, Reyes-Ruiz JM, Darabedian N, Feimeng Z, Miledi R, Russo-Neustadt A, Limon A. Direct evidence for GABAergic Activity of *Withania somnifera* on Mammalian ionotropic GABAA and GABA receptors, *J Ethanopharmacol.* 2015 Aug ; 171: 264-272.
- [4] Andrade C, Aswath A, Chaturvedi SK, Srinivasa M and Raguram R. A double-blind, Placebo controlled evaluation of the anxiolytic efficacy of an ethanolic extract of *Withania somnifera*, *Indian J Psychiatry.* 2000 Jul ; 42 (3): 295-301.
- [5] Wankhede S, Langade D, Joshi K, Sinha SR, Bhattacharyya S. Examining the effect of *Withania somnifera* supplementation on muscle strength and recovery: a randomized controlled trial, *J Int SOC sports Nutr.* 2015 Nov: 12 : 43.
- [6] Sandhu JS, Shah B, Shenoy S, Chauhan S, Lavekar GS, and Padhi MM. Effect on *Withania somnifera* (Ashwagandha) and *Terminalia arjuna* on Physical performance and cardiorespiratory endurance in healthy you adults. *Int J Ayurveda Res.* 2010 Jul; 1(3): 144-149.
- [7] Visavadiya NP, Narasimhacharya AVRL. Hypocholesteremia and Antioxidant effect of *Withania somnifera* (Dunal) in hypercholesteremic rats. *Phytomedicine.* 2007 Feb; 19(2-3): 136-142.
- [8] Gupta A, Mahdi AA, Shukla KK, Ahmad MK, Bansal N, Sankawar P and Sankawar SN. Efficacy of *Withania somnifera* on seminal plasma metabolites of infertile males: A proton NMR study at 800 MHz, *J of Ethanopharmacology*, 2013; 149(1), 208-214.
- [9] Lopresti AL, Drummond PD, Smith SJ. A randomised, Double-blind, Placebo-Controlled, Crossover study examining the hormonal and vitality effects of Ashwagandha (*Withania somnifera*) in Ageing overweight males, *American J mens Health: Mar-Apr 2019; 13(2): 1557988319835985.*
- [10] Greenberg SH, Lipschyltz LI, Wein AJ. Experience with 425 subfertile male patients. *J Urol.* 1978; 119: 507-510.
- [11] Kamischke A, Nieschlag E. Analysis of medical treatment of male infertility. *Hum Reprod.* 1999; 14: 1-23.
- [12] Nandkarni KM, *Indian Materia Medica.* Popular Prakashan, Bombay 1986 (153-155).
- [13] Misra LC, Singh BB, Degenais S. Scientific basis for the therapeutic uses of *Withania somnifera* (Ashwagandha): a review. *Altern Med Review* 2000; 5: 334-346.
- [14] Dhuley JN. Effects of Ashwagandha on lipid peroxidation in stress-induced animals. *J Ethanopharmacol.* 1998; 60: 173-178.
- [15] Al-Qarwi AA, Abdel-Rehman HA, El-Badry AA, Harraz FM, Razig NA and Abdel-Magied EM. The effect of extracts of *Cynomorium coccineum* and *Withania somnifera* on gonadotropins and ovarian follicles of immature wistar rats. *Phytother Res.* 2000; 14: 288-290.
- [16] Abdel-Magied EM, Abdel-Ragman HA, Harraz FM. Effect of extract of *Cynomorium coccineum* and *Withania somnifera* on testicular development in immature wistar rats, *J. Ethanopharmacol*, 2000; 75: 1-4.
- [17] Ahmad MK, Mahdi AA, Shukla KK, Islam N, Singh R, Dama M, Shankhwar SN and Ahmad S. *Withania somnifera* improves semen quality by regulating reproductive hormone levels and oxidative stress in seminal plasma of infertility males. *Fertil Steril.* 2010 Aug; 94(3): 989-996.
- [18] <https://crazybulk.com/blogs/hormones/ashwagandha-testosterone>