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ASHWAGANDHA -The Drug of Brimhaneeya & Balya Mahakashaya In Male Infertility

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ABSTRACT: Ashwagandha (*Withania somnifera*), a widely used Ayurvedic herb has garnered significant attention for its potential benefits in improving male reproductive health. This review comprehensively examines the scientific evidence supporting the use of Ashwagandha in addressing male infertility.
Several studies have stated that use of Ashwagandha can lead to improvement in sperm count, its mobility and morphology.
Studies have demonstrated Ashwagandha's ability to modulate the levels of reproductive hormones, including testosterone, LH and FSH which are essential for spermatogenesis.
Ashwagandha may be a valuable adjunct for men with Infertility, particularly those with underlying oxidative stress or hormonal imbalance. Oral intake of Ashwagandha roots has been found to inhibit lipid peroxidation, improve sperm count and motility, and regulate reproductive hormone levels. The molecular mechanisms of these effects, however, are yet to be unveiled.

KEYWORDS: Ashwagandha, *Withania somnifera*, male infertility, reproductive health, herbal medicine, hormonal imbalance.

INTRODUCTION

Infertility is defined as the inability to conceive after one year of unprotected intercourse, with male factors contributing to nearly 40–50% of cases. Common causes include low sperm count, poor mobility, abnormal morphology, and oxidative damage. Psychological stress and hormonal imbalances further exacerbate these conditions. Traditional Ayurvedic medicine emphasizes holistic approaches, with Ashwagandha being a key herb for enhancing fertility and overall vitality. This review delves into its mechanisms, clinical efficacy, and role in male infertility treatment. Many herbal drugs and commonly used food stuffs are known to have a beneficial effect on male reproductive health, including Gokshura (*Tribulusterrestris*), Garlic (*Allium sativum*), Onion (Allium cepa), Marijuana (*Cannabis sativa),* Shunti (Zingiberofficinale) etc.
A well-known herb in India that has been most commonly used in the treatment of male infertility for more than 3000 years is Ashwagandha (*Withania sominifera*). It is also called as 'Indian ginseng'. It is widely used for disorders like erectile dysfunction, oligozoopsermia, reproductive endocrinological problems and other

male reproductive health problems. Ashwagandha is classified as Rasayana (rejuvenate) and Vrishya (aphrodisiac).

INFERTILITY DEFINITION

Male infertility in Ayurveda is referred to as "Shukra Kshaya" or "Vandhyatva," where the impairment in the quality or quantity of **Shukra Dhatu** (reproductive tissue) leads to the inability to conceive. Ayurvedic classics like Charak Samhita, Sushruta Samhita, and Ashtanga Hridaya discuss male infertility in terms of Dosha imbalances, improper diet, lifestyle factors, &disorders affecting Shukra Dhatu.

Cases of Male infertility are now increasing exponentially due the modern way of lifestyle which includes late night sleep, improper food habits, smoking etc.

According to Ayurveda the main cause of male infertility is due to Shukradhatu Dushti. **Shukra Dhatu** is the final and most refined tissue formed during the process of nourishment of the seven Dhatus (body tissues). It is responsible for reproduction, vitality, and vigor.

"दोषदूष्यसमावायात् विकारो दोषलक्षणोपेतः।"

(Charak Samhita, Sutrasthana 21/32)

Diseases arise due to the interaction of Doshas and tissues, including Shukra Dhatu.

शुक्रं शुक्रवहास्रोतसां मूलं।

(Charak Samhita, Vimana Sthana 5/7)

Shukra (reproductive tissue) forms the essence of Shukravaha Srotas (reproductive channels) and is vital for reproduction.

बलक्षयः शुक्रक्षयेऽल्पशुक्रता वा।

(Ashtanga Hridaya, Nidana Sthana 11/8)

Deficiency of Shukra Dhatu leads to loss of strength and reduced reproductive capacity.

स्रोतसामावरणं दोषैः शुक्रमेव विकुर्वते।

(Sushruta Samhita, Sharira Sthana 2/39)

Blockage of channels by Doshas leads to impairment of Shukra Dhatu.

There are several etiological factors for male infertility, those are as follows.

a) **Dietary Factors (Ahara)**
   - Excessive intake of spicy, sour, or junk foods.
   - Overconsumption of alcohol, smoking, and caffeine.
   - Virudha Ahara (incompatible foods like milk with fish)

b) **Lifestyle Factors (Vihara)**
   - Sedentary lifestyle or lack of physical activity.
   - Excessive indulgence in sexual activity or prolonged celibacy.
   - Overuse of medications causing hormonal imbalances.

c) **Psychological Factors**
   Chronic stress, depression, or anxiety.

d) **Pathological Factors**
- Obstruction in **Shukravaha Srotas** due to Ama (toxins).
- Conditions like oligospermia, azoospermia, low sperm motility.

Classification of Shukra Dosha:

Dosha	Characteristics	Symptoms
Vata	Dryness, irregularity.	Low sperm count, erectile dysfunction.
Pitta	Heat, inflammation.	Burning sensation in genitals, discolored semen.
Kapha	Blockage, heaviness.	Thick, sluggish semen, low motility.

Lakshanas
- Low sperm count (Oligospermia).
- Poor sperm motility.
- Erectile dysfunction.
- Premature ejaculation.
- Discoloration of semen.
- Fatigue and low libido.

In Ayurveda Main treatment for Male infertility is Rasayana and Srotoshodhana Chikitsa.

Sadhya Asadhyatva:
Infertility caused due to Imbalance of doshas are Sadhya (curable)
Whereas those which are due to genetic causes or due to structural abnormalities are Asadhya (incurable).
The main terminology used for male infertility in Ayurveda is called **Klaibya.**

Ashwagandha
Latin name: Withania somnifera.
Family: Solanaceae.
Vernacular name: English- Winter cherry.
Hindi- Asgandha.
Classification: According to Ach Charak- Balya, Bruhaniya, Madhuaskandha.
Synonyms: Vaji, Hayahaya, Vrakarni, Varada, Balada, Kanchuka, Vrusha, Marutaghni, Putrada.
Part Used: Root, leaf, alkali
Rasa Panchak
- Rasa- Madhura, Tikta, Kashaya.
- Guna- Laghu, Snigdha.
- Virya- Ushna.
- Vipaka- Madhura.

Chemical Composition
Alkaloids, Isopelletierine, Anaferin, Tropine, Somniferin.
Steroidal Lactones- Withanolides, Withanoferins Saponins.
Others- Iron, resin, fat, phytosterol, ipuranol, and mixture of saturated and unsaturated acids.

Karma

Kapha-vata hara, Balya, Shukravardhak, Rasayana, Vatagna, Kaphagna, Switraghna, Sothagna, Vrushya, Dipana, Anulomana, Krimigna, Raktashodhaka, Swashara, Vajikarana, Mutrala, Kushtagna, Brihaniya, Garbhashay Shothahara.

Indications

Shopha, Shvitra, Kshaya, Jwara, Kushta, kandu, krimi, Nidranasha,

Dose

Powder: 3-5g

Decoction: 50-100ml

Varieties & adulterants

In the literature we do not come across the descriptions regarding 2 kinds of Ashwagandha but there are 2 plants available in the trade viz.

1) Withania somnifera
2) Withania coagulants

The cultivated variety of ashwagandha which is thin and lean is mainly brought from Nagori district in Madhya Pradesh. Hence the name being used internally.

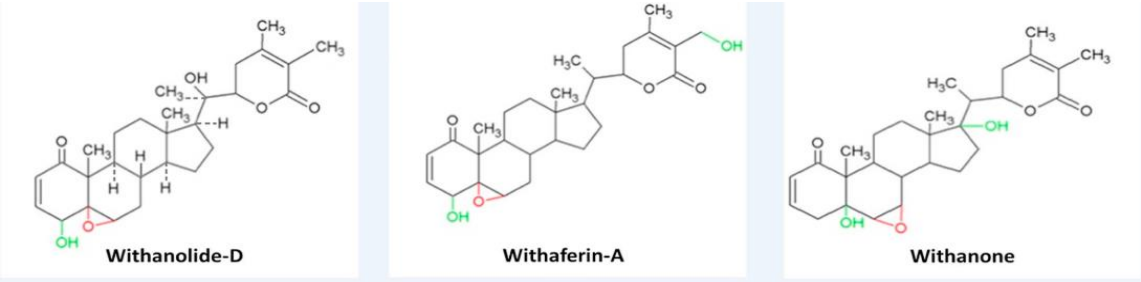
Ashwagandha's therapeutic effects are attributed to its active compounds, including:

Withanolides- Steroidal lactones with anti-inflammatory and antioxidant properties.

Alkaloids- Known for their adaptogenic effects.

Saponins and Withaferin A – Contribute to stress reduction and immune modulation.

These bioactive compounds work synergistically to enhance overall reproductive health.



How does Ashwagandha helps to cure male infertility?

The mechanisms through which Withania somnifera influences the reproductive system and fertility can be broadly categorized into two primary pathways: oxidative mechanisms, which involve its role in combating oxidative stress and promoting cellular health, and non-oxidative mechanisms, which encompass its direct regulatory effects on hormonal balance, tissue function, and overall reproductive health.

The oxidative mechanism primarily involves the intricate modulation of the body's antioxidant activity, which includes the regulation of critical antioxidant enzymes and the co-factors necessary for their optimal functioning. These enzymes, along with their associated co-factors, work synergistically to neutralize free radicals and prevent oxidative stress, which can otherwise lead to cellular damage and dysfunction. By enhancing the activity of these enzymes and ensuring the availability of essential co-factors, this mechanism plays a pivotal role in maintaining cellular redox balance, protecting tissues from oxidative injury, and supporting overall physiological health and strength.

The non-oxidative mechanisms through which Withania somnifera exerts its beneficial effects are multifaceted, with a primary focus on its regulatory influence on the hypothalamic-pituitary-gonadal (HPG)

axis. This axis is a critical endocrine pathway responsible for controlling reproductive functions, including the production and regulation of hormones like testosterone, estrogen, and luteinizing hormone, which are essential for maintaining fertility and reproductive health. Additionally, Withania somnifera plays a pivotal role in modulating the hypothalamic-pituitary-adrenal (HPA) axis, which governs the body's stress response by regulating the release of stress hormones such as cortisol. Its actions on the HPA axis not only help reduce the physiological and psychological effects of chronic stress but also indirectly enhance reproductive health, as stress is a well-known disruptor of hormonal balance. By simultaneously addressing these two vital neuroendocrine pathways, Withania somnifera provides comprehensive support for reproductive health, hormonal equilibrium, stress management, and overall physiological strength.

Upon administration, the extract of Withania somnifera is metabolized within the body, resulting in the production of its major bioactive compounds, including withaferin-A, withanolide-D, withanone, and various other withanolide derivatives. These potent biochemical constituents play a crucial role in enhancing male fertility through a multifaceted approach. Some of these compounds directly interact with testicular cells and other male reproductive tissues, promoting their health, vitality, and optimal functioning. Others act indirectly by influencing the endocrine system, specifically targeting the regulatory mechanisms that control hormone production and balance. By modulating key hormonal pathways involved in the male reproductive process, Withania somnifera helps restore and maintain optimal levels of reproductive hormones, thereby improving overall reproductive health. This comprehensive action supports not only the structural integrity and function of the reproductive organs but also helps to regulate and optimize the broader physiological processes essential for fertility, ensuring a holistic enhancement of male reproductive health.

As per Ayurveda it is said that Ashwagandha is specially Shukra and Mamsavardhaka. Due the its Madhura Rasa and Vipaka there is formation of healthy Shukra (sperm), and also due to its Ushna Virya there is proper Shukrapravartan(ejaculation of Shukra at proper time) ie it prevents too early release or too late. That is why it is the best Vajikarana (aphrodisiac) drug. Shatavari being Madhura Rasatmaka does increase the sperm health and quality but due to its Sheeta Virya id does not help in Shukra Pravartana.

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