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ASHWAGNADA: AN OVERVIEW AND HERBAL MONOGRAPH

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ABSTRACT

The evergreen shrub Withania somnifera (L.) Dunal is grown in tropical and subtropical regions of Europe, Africa, and Asia. Because the roots of the plant are thought to smell like a wet horse ("ashwa" for horse and "gandha" for smell), it is frequently referred to by its Sanskrit name, ashwagandha. Despite not being a member of the ginseng family, ashwagandha is also occasionally referred to as winter cherry or Indian ginseng. In India's traditional Ayurvedic and Unani medical systems, ashwagandha root has been used as an adaptogen, which is broadly defined as a substance or product that improves a person's capacity to withstand, adjust, or become resilient in general ways to biological, physical, or chemical stressors.

KEYWORDS: Ashwagnada; evergreen; tropical; medical; herbs.

INTRODUCTION

- **Latin name:**
- *Withania somnifera*
- **Common names:**
- Ashwagandha, also called “Indian Winter cherry” or “Indian Ginseng”
- **Plant family:**
- Solanaceae/Nightshade
- **Parts used:**

Different parts of the plant, such as leaves, roots, flowers and seeds (Muhammad et al. 2016). However, the roots are considered the best source of health-boosting compounds, which is also why most studies on ashwagandha use extracts made from this part of the plant (Kaul et al. 2016) [Figure 1 and 2].

- **Habitat**

The Ashwagandha is commonly grown in a warm, dry and sunny environment. It is distributed in the northwestern Indian states and extends into the Pakistani provinces of Sindh and on into

Afghanistan. Moreover, it is reported to grow in the western provinces of China and Sri Lanka (Abhilash et al. 2008). It exists in several African countries, including South Africa, Sudan, Egypt, Mali, Nigeria, and Congo (Afewerky et al. 2021).

- **Botanical characteristics**

Botanically it is a small, erect, branched, woody shrub that grows up to 150-170 cm tall. Roots are thick and whitish brown in color (Malík and Tlustoš 2023). Leaves are simple, elliptic to generally ovate, up to 10 cm long, those in the flower region are smaller and inverse. Flowers are bisexual, greenish or yellow, pedicellate, 4-6 mm in diameter. Berries are small, globular, orange-red when mature, 5 mm in diameter. Seeds are small, smooth, yellow, and kidney shaped. Different parts of the Ashwagandha contain several chemical compounds including alkaloids (e.g., somniferine), steroidal compounds (e.g., ergostane), Pyrazole derivatives (e.g., ashwagandhine) (Aye et al. 2019; Saleem et al. 2020).

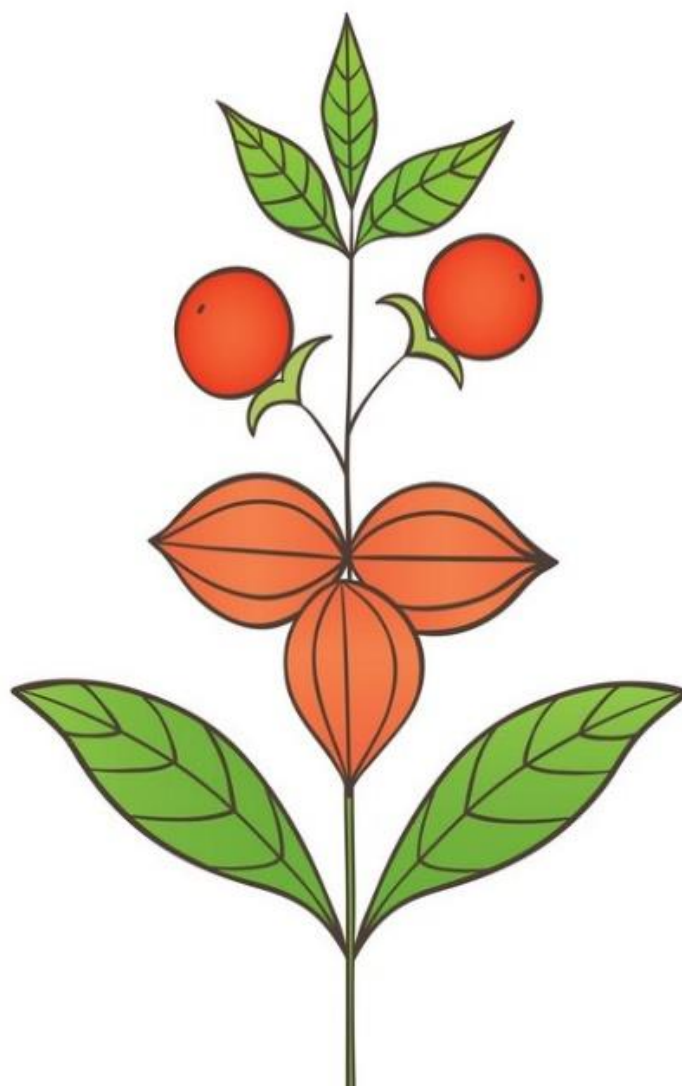


Figure 1: Ashwagandha Plant Photo Adapted From <https://www.Vectorstock.Com/>



Figure 2: Photo: <https://www.hawaiiseedgrowersnetwork.com/>

- **History & Folklore**

It is believed that an early mention of Ashwagandha was found in one of the highly held and oldest Ayurvedic texts called Charaka Samhita (Singh et al. 2011). The traditional medical practice originating in Greece (Unani) has mentioned asgandh (as stated in Greek literature) to enhance virility in men and relieve mental stress (Poulakou-Rebelakou et al. 2015). Furthermore, Ibn Sina also mentioned the uses of Ashwagandha in his book (The Canon of Medicine) (Masic 2012).

- **Herbal actions, main therapeutic use:**

Ashwagandha has been shown in many studies to enhance cognitive function and immediate and general memory. Similarly, it is a powerful adaptogen which enhances the body's resilience to stress and anxiety (Choudhary et al. 2017; Singh et al. 2011). Studies showed that ashwagandha can be given in several conditions such as vata deficiency, constipation, and rheumatoid arthritis, and it can be applied locally to reduce inflammation in the joints, ulcers and painful swellings. Ashwagandha improves sleep quality and sleep onset latency (insomnia). Moreover, it treats infertility and promotes a healthy sexual and reproductive balance (Sharma 1999; Tandon and Yadav 2020). Ashwagandha root was traditionally produced as a powder, decoction, or paste and mixed with milk, honey, or ghee based on the dosha, or individual's constitution. Ayurvedic practitioners stressed customized use.

Similarly, evidence from clinical studies includes randomized clinical studies (RCTs) that examine how ashwagandha extract affects stress and anxiety. In comparison to the placebo, ashwagandha supplementation was observed to significantly lower stress levels. Furthermore, the non-linear dose-response analysis showed that ashwagandha had a positive effect (Langade et al., 2021).

In a different study carried out in India, 80 healthy individuals between the ages of 18 and 50—half of whom had insomnia—were randomly assigned to receive either a placebo or ashwagandha root extract (KSM-66) for eight weeks. Participants took two 300-mg capsules of the standardized extract, which had an anolide level of greater than 5%. When compared to those taking a placebo, individuals with insomnia who took ashwagandha extract demonstrated improvements in subjective anxiety symptoms, mental alertness upon waking, sleep onset latency, and sleep quality (Langade et al., 2021).

- **Dosage Options**

The potency of the extract and the amount of withanolide determine the dosage; products differ greatly. Instead of using raw root equivalents, clinicians and consumers should match dosage to the actual standardized extract on the label (Chandrasekhar et al., 2012).

Most people take ashwagandha as a capsule or powder that can be taken at any time of the day. The recommended ashwagandha dosage varies depending on the patient's needs (doses up to 1000

mg daily). However, most research recommends that taking 250–500 mg daily for at least 1 month is beneficial (Bonilla et al. 2021; Speers et al. 2021).

According to several research, taking 300–600 mg of ashwagandha extract per day can help lower anxiety and tension. This dosing range significantly reduced stress in a 60-day randomized double-blind placebo study. Another double-blind, placebo-controlled trial found that taking 600 mg daily reduced stress and enhanced sleep quality (Chandrasekhar et al., 2012).

- **Safety issues**

Ashwagandha is generally considered safe to consume without significant side effects. It is often given as tablets or capsules taken once to three times daily (Gopukumar et al. 2021). Side effects are uncommon and have not been clearly defined. However, large doses can cause gastrointestinal symptoms such as diarrhea, nausea and vomiting due to the direct irritation of the intestinal mucosa (Tandon and Yadav 2020). Furthermore, pregnant or breastfeeding females and those taking certain medications (such as immunosuppressants and anticonvulsants) may need to avoid it (Mikulska et al. 2023).

- **Ecological & Conservation Issues**

Over 70 % of the plant collections involve destructive harvesting causing many plants to be endangered or vulnerable (Pandey and Savita, 2017). There are a few threats responsible for the decrease of Ashwagandha in the western Himalayan range and salt range of Punjab Pakistan which may include deforestation and over-exploitation in addition to climatic changes (Aslam, 2017).

- **Relevance to Herbal Practice**

The maximum benefit appears when fresh Ashwagandha powder is used. The leaves are recommended for fever and painful swellings (**an anti-inflammatory and anti-arthritis agent**). The flowers are astringent, depurative, diuretic and aphrodisiac (Polumackany et al., 2023). The root extracts are an essential therapeutic agent in Ayurveda as an “adaptogen” which help our bodies manage stress and restore balance after a stressful situation (**anti-stress agent**) (Gopukumar et al. 2021; Salve et al. 2019). Ashwagandha roots possess antioxidant properties which rejuvenate the body cells (**as anti-aging agent**). Whereas the potential health benefits of Ashwagandha are promising, additional research is needed to understand its mechanisms of action fully and to determine its effectiveness in treating various health conditions.

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