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Medicinal Uses of *Ashwagandha* (Indian Ginseng) - A Historical Review

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ABSTRACT

Recently Ayurveda, the nature based system of medicine is gaining importance throughout the world due to its novel healing approach. Mother Nature has gifted mankind with tremendous medicinal plants to create a disease free and healthy life. Rich medicinal plants are existing in the Indian traditional systems of medicine mostly used one amongst them is Indian ginseng or Ashwagandha, also known as *Withania somnifera* (L.) Dunal, belongs to the family Solanaceae. Ashwagandha is a plant used in medicine from the time of Ayurveda, the ancient system of Indian medicine. The dried roots of the plant are used in the treatment of nervous and sexual disorders. It is one of the most important herbs used for millennia as a Rasayana (Rejuvenator) for its wide ranging health benefits. Present study aimed to find out the various therapeutic applications of this important plant as per ancient Ayurveda scholars. The term Ashwagandha and its related synonyms were searched in various ancient Sanskrit transcripts and discussion was made accordingly. It is enormously used as a tonic to restore the lost body's energy and vigor, mentioned under Rasayana, Balya (strength promoting activity) in Ayurveda. Though numbers of pharmacological studies have already been reported on this medicinal plant, still there is enough scope of advance scientific research regarding its ancient therapeutic application.

INTRODUCTION

Ashwagandha (Indian Ginseng) is one of the most important medicinal plants in Indian traditional systems of medicine. The plant is botanically identified as *Withania somnifera* (L.) Dunal. It is an important medicinal plant and used in Ayurvedic medicines for the treatment of many diseases and it is also used in other parts of world.[1]In *Ayurveda* it is known as '*Rasayana'* because it promotes health and longevity, arrest aging process, increase capability of individual to resist adverse environmental conditions.[2] *W. somnifera* (L.) Dunal commonly known as "*Ashwagandha*", "*Asgandh*" and "Winter Cherry" belongs to family Solanaceae and widely distributed in warmer parts of the world. Genus *Withania* comprises 23 species including *W. somnifera* (L.) Dunal and *W. coagulans* (L.) Dunal having high medicinal value which is used as "*Rasayana*" in Ayurvedic formulations.[3]*Ashwagandha* attains the special name because its root smells like horse ("*Ashwa*") and believe to provide power like horse when consumed.[4]In Vedas, it is described as herbal tonic and health food and considered as 'Indian Ginseng' because of its ginseng like health promoting effects.[5]*Ashwagandha* improves energy and also memory by enhancing the brain and nervous function; shows anxiolytic effects, has hepatoprotective property, raises hemoglobin level and red blood cell count, improve energy level; has potent antioxidant activity, improve the cell-mediated immunity; promotes vigor and vitality along with cheerful sexual life and reproductive equilibrium and act as powerful adaptogen.[6,7,8,9,10] It is a well known fact that root of *Ashwagandha* is useful in the treatment of various diseases. Pharmacological research reports on *Ashwagandha* reveal its Anti-stress[11], Anti-tumor[12], Immuno-modulatory[13], Hepatoprotective[14], Anticonvulsant[15], and Cardioprotective[16] properties. *Ashwagandha* is also reported to possess hypoglycemic, diuretic and hypocholesterolemic[17], nootropic[18] and Adaptogenic[19] activities. These properties are efficacious in the prevention and treatment of various diseases like stress, anxiety, insomnia, liver, heart diseases, cancer and chronic upper respiratory diseases. Present study was aimed to find out the ancient therapeutic uses of the plant *Ashwagandha* in various *Ayurveda transcripts*. The word *Ashwagandha* and all the related synonyms as per Ayurveda literature have been searched in various classical texts and discussion was made accordingly.

THERAPEUTIC USES OF *ASHWAGANDHA* IN VARIOUS AYURVEDA TEXTS:

Vedic Kala

Ashwagandha is a well-documented herb in ancient Indian medicine. No description can be found regarding *Ashwagandha* in any of the *Aranyakas or Upanisadas*. The uses of plant are mentioned in *Aswalayana Grahya sutra* and *Shatapatha Brahmana*, where it has been marked as *Ashwagandha* (Rock like smell). A word '*Aswasya Varah*' mentioned in the *visha chikitsa.*[20]*Ashwawal* and *Ashwawar* both words were also used in *Yajurveda* and *Atharvaveda. Ashwawati* is described as *Shrivardhaka* and *Rasayana* in *Rigveda, Yajurveda* and *Atharvaveda.*[21]

Samhita Kala

1. Charaka Samhita

Table 1: Medicinal uses of *Ashwagandha in Charak Samhita*[22]

Sr. no.	References	Mentioned In	Indication
1	*Ch.Su.3/8*	*Kusthadilepa*	*Kandu*(~itching),*kustha*(~skin disorder), *sotha*(~inflammation)
2	*Ch.Su.4/2*	*Brihaniyamahakashaya*	-
3	*Ch.Su.4/7*	*BalyaMahakashaya*	-
4	*Ch.Su.25/2*	*Mulaasava*	-
5	*Ch.Vi.8/139*	*Madhuraskandha*	-
6	*Ch.Vi.8/136*	*Virechanadravya*	-
7	*Ch.Chi.2-1/34*	*Vajikaranaghrita*	
8	*Ch.Chi.3/267*	*Agurvaditaila*	*Sheetajwara*(~fever)
9	*Ch.Chi.8/176*	*Utsadanarthaushdhadravya*	*Rajayakshma*(~pulmonary tuberculosis)
10	*Ch.Chi.13/108*	*Udararognashakalepa*	*Udarroga*(~abdominal disorders)
11	*Ch.Chi.14/50*	*Tumbaruvadidhoopan*	*Arsha*(~Piles)
12	*Ch.Chi.17/117*	*Vividhayog (Aswagandhakshar)*	*Hikka*(~hiccough), *Shwas*(~Ashthma)

13	*Ch.Chi.18/75*	*Vividhadhoomapanaprayog*	*Kaas*(~cough)
14	*Ch.Chi.21/123*	*Pradeha*	*Granthivisarpa*(~erysipelas)
15	*Ch.Chi.23/70*	*Gandhahastinaamagada*	*Visha*(~poison)
16	*Ch.Chi.23/80*	*Mahagandhahastinamagada*	*Visha*(~poison)
17	*Ch.Chi.23/244*	*Amrita ghrita*	*Visha*(~poison)
18	*Ch.Chi.27/43*	*Kusthaditaila*	*Urustambha*(~spasticity of thighs)
19	*Ch.Chi.28/166*	*Anaya tailapak*	*Vatavyadhi*(~neurological disorders)
20	*Ch.Chi.28/170*	*Vrishmuladitaila*	*Vatavyadhi*(~neurological disorders)
21	*Ch.Chi.28/173*	*Mulakataila*	*Vatavyadhi*(~neurological disorders)
22	*Ch.Chi.29/73*	*Jivakadimahasneha*	*Vatarakta*(~gout)
23	*Ch.Si.3/39*	*Arandmuladiniruhbasti*	*Kaphaaavritavatavikara*
24	*Ch.Si.4/4*	*Dashmuladianuvasantaila*	*Vatavikar*(~neurological disorders)
25	*Ch.Si.9/87*	*Kwath&kalka siddha sneha*	*Anantavata*(~trigeminal neuralgia)
26	*Ch.Si.12/15(2)*	*Arandmuladiyapanabasti*	-
27	*Ch.Si.12/15(6)*	*Dvitiyabaladiyapanabasti*	-
28	*Ch.Si.12/18(2)*	*Baladiyamakaanuvasan*	-

Abbreviations- *Ch- Charak samhita, Su- Sutra sthana, Vi- Vimanasthana, Chi- Chikitsasthana, Si- Siddhi sthana*

2. Sushruta samhita

Table 2: Medicinal uses of *Ashwagandha* in *Sushruta Samhita*[23]

Sr. no.	References	Mentioned In	Indication
1	*S.S.Su. 15/40*	*Brihanadravya*	*Karshyaroga*(~emaciation)
2	*S.S.Su. 16/21,23*	*Godhadi yoga*	*Karnapalivardhan* (~expansion of ear pinna)
3	*S.S.Su.36/6*	*Ajagandhadilepa*	*Kaphajsopha*(~inflammation)
4	*S.S.Su.36/24*	*Somadivarti*	*Vranaropana*(~wound healing)

5	*S.S.Su.36/31*	*Utsadandravya*	*Vrana*(~wound)
6	*S.S.Su.39/3*	*Urdhvabhagdoshhardravya*	*Vaman karma*(~emesis)
7	*S.S.Su.46/438*	*Ashwagandhaasav*	*Anupanarth*(~adjuvants)
8	*S.S.Chi. 5/10*	*Tilaashwagandhakalka*	*Kaphajvatarkta*(~gout)
9	*S.S.Chi. 15/33*	*Balataila*	*Sutikaroga*(~puerperal diseases)
10	*S.S.Chi.17/14*	*Lepa*	*KaphajVisarpa*(~erysipelas)
11	*S.S.Chi.25/15*	*Lepa*	*Paripotakaroga*(~inflammation of the lobe of the ear)
12	*S.S.Chi.25/26*	*Karnapaalivardhantaila*	*Palivardhnarth*(~ear lobule elongation)
13	*S.S.Chi.37/12*	*Vachaditaila*	*Anuvasanbasti* (~enema prepared by medicated oil)
14	*S.S.Chi.37/17*	*Chitrakaditaila*	*Anuvasanbasti*(~enema prepared by medicated oil)
15	*S.S.Chi.37/20*	*Bhutikaditaila*	*Anuvasanbasti*(enema prepared by medicated oil)
16	*S.S.Chi.38/43*	*Sampakadiaasthapan*	*Niruhabasti* (decoction enema)
17	*S.S.Ut.41/42*	*Ashwagandhadichurna*	*Shosaroga*(~emaciation)
18	*S.S.Ut.41/43*	*Ashwagandhaksheer*	*Shosaroga*(~emaciation)
19	*S.S.Ut.41/44*	*Ashwagandhautsadana*	*Shosaroga*(~emaciation)
20	*S.S.Ut.62/28*	*Phalaghrita*	*Unmada* (~insanity)

Abbreviations- *S.S.- Sushruta samhita, Su- sutra sthana, Chi- chikitsasthana, Ut.- uttratantra*

3. Ashtanga Hridaya

Table 3: Medicinal uses of *Ashwagandha* in *Ashtanga Hridaya*[24]

Sr. no.	References	Mentioned In	Indication
1	*A.H.Sha.2/50*	*Balataila*	*Sutikarog*(~puerperal diseases),*Unmada*(~insanity)
2	*A.H.Chi.3/122*	*Nagabaladighrita*	*Kasa*(~cough)
3	*A.H.Chi.3/133*	*Vashisthaharitaki*	*Kasa* (~cough)
4	*A.H.Chi.5/25*	*Ashwagandhadighrita*	*Rajayakshma*(~pulmonary tuberculosis)
5	*A.H.Chi.5/79*	*Jeevantyadiudvartanyog*	*Rajayakshma*(~pulmonary tuberculosis)
6	*A.H.Chi.13/41*	*Sukumarrasayan*	*Vatavyadhi*(~neurological disorders)
7	*A.H.Chi.14/14*	*Dadhikaghrita*	*Gulma*(~abdominal lump), *Unmada*(~insanity),*Apasmara*(~epilepsy)
8	*A.H.Ka.4/7*	*Arandamuladibasti*	*Vataj-Kaphajroga*
9	*A.H.Ka.4/54*	*Dashamuladisnehabasti*	*Vatajroga*
10	*A.H.Ut.2/50*	*Sinhyadighrita*	*Balashosa*(~marasmus)
11	*A.H.Ut.2/55*	*Lakshaditaila*	*Balaamaya*(~child disorders)
12	*A.H.Ut.3/54*	*Saarivadighrita*	*Bala graham roga*
13	*A.H.Ut.5/15*	*Siddharthakadiguda*	*Bhutapratishedha*
14	*A.H.Ut.18/40*	*Satavaryaditaila*	*Karnapalishosa*
15	*A.H.Ut.18/45*	*Tailaprayog*	*Unmanthkarnaroga*
16	*A.H.Ut.18/56*	*Karnapalivardhaksneha*	*Karnaroga* (~ear diseases)
17	*A.H.Ut.25/52*	*Lepa*	*Vranaropana*(~wound healing)
18	*A.H.Ut.34/64*	*Phalaghrita*	*Guhyaroga, graham roga*
19	*A.H.Ut.39/61*	*Vidarigandhadirasayan*	*Medhya*(~nootropic))
20	*A.H.Ut.40/14*	*Sharadivajikaranyog*	*Vrishya*(~aphrodisiac)

Abbreviations- *A.H.- Ashtanaga hridaya, Sha- sharirsthana, Chi- chikitsa, Ka- kalpasthana, Ut- uttarasthana*

4. Bhel Samhita

Table 4: Medicinal uses of *Ashwagandha* in *Bhel samhita*[25]

Sr. no.	References	Mentioned In	Indication
1	*Bhe.Su.4/5*	*Aragvadhadianulepa*	*Krimi*(~worms),*Kustha*(~skin disorder)
2	*Bhe.Su.27/38*	*Ashwagandha kashaya*	*Anupanarth*(~adjuvant)
3	*Bhe.Chi.4/91*	*Kshayonmardankalka*	*Yakshma* (~pulmonary tuberculosis)
4	*Bhe.Chi.5/20*	*Dadhikaghrita*	*Hridroga*(~cardiac disorders)
5	*Bhe.Chi.14/16*	*Dashmuladitaila*	*Adhyavata*(~gout),*urustambha*(~spasticity in thighs)
6	*Bhe.Si.7/16*	*Ashwagandha diniruh*	*Vatarogas* (~neurological disorders)

Abbreviations- *Bhe- Bhel samhita, Su- sutra sthana, Chi- Chikitsasthana, Si- Siddhi sthana*

5. Harita Samhita

Table 5: Medicinal uses of *Ashawagandha* in *Harita samhita*[26]

Sr. no.	References	Mentioned In	Indication
1	*Ha.S. 3/3/56*	*Vishashamannamaktaila*	*Vishavikara*(~poisonous disorder)
2	*Ha.S. 3/18/34*	*Drakshaavaleha*	*Unmada*(~insanity) ,*Apasmara*(~epilepsy)
3	*Ha.S. 3/20/60*	*Kwath*	*Vatavyadhi*(~neurological disorders)
4	*Ha.S. 3/20/81*	*Baladiaushdhataila*	*Vatavyadhi*(~neurological disorders),*Apasmara*(~epilepsy)
5	*Ha.S. 3/20/108*	*Narayan taila*	*Vatavyadhi*(~neurological disorders),*Apasmara*(~epilepsy)

6. Kashyapa Samhita

Medicinal uses of *Ashwagandha* in *Kashyapa Samhita*-[27]

Ashwagandha ingredient of *Revati yoga* mentioned in *balagraha chikitsa*. *Ashwagandha* ingredient of *Ashwagandhadi yoga* mentioned in *Rajayakshma chikitsa*. *Ashwagandha* ingredient of *balataila* mentioned in *Dhatri chikitsa*. *Ashwagandha* ingredient of *Shishusneha* mentioned in *Mangalasiddhi*. *Ashwagandha* ingredient of *Sarvadoshaharaniruha* mentioned in *Mangalasiddhi*. *Ashwagandha* indicated in *Vatajajwara*.[28]*Ashwagandha* mentioned in *Sankarsweda*.[29]*Ashwagandha* is ingredient of *Arandamuladibasti* used in *Vataroga*.[30]

7. Chakradatta

Table 6: Medicinal uses of *Ashwagandha* in *Chakradatta*[31]

Sr. no.	References	Mentioned In	Indication
1	10/10	*Ashwagndha diyog*	*Kshaya*(~emaciation)
2	10/15	*Ashwagndha dileha*	*Kshaya*(~emaciation)
3	22/93	*Ashwagndha dyaghrita*	*Vatavyadhi*(~neurological disorder)
4	22/142	*Ashwagndha ditaila*	*Vatavyadhi*(~neurological disorder)
5	37/48	*Ashwagndha churna*	*Udararoga*(~abdominal disorder),*krimi*(~worm),*sotha*(~oedema)
6	62/28	*Ashwagndhadi Ksheer*	*Yonivyapada*(~vaginal disorders)
7	64/70	*Ashwagandha ghrita*	*Balaroga*(~child disorders)
8	66/15	*Ashwagndha rasayana*	*Balashosa*(~marasmus)
9	67/49	*Ashwagndha ditaila*	*Karnapalivardhana* (~elongation of ear lobule)

Ashwagandha* in *Nighantukala

***Ashtanga Nighantu*- (8th century A.D.)**

Ashwagandha kept into *Shyamadigana* and its synonyms has been described in this *Nighantu*.

***Dhanvantari nighantu*- (10th century A.D.)**

Ashwagandha kept into *Guduchyadi varga* and its properties, synonyms, indications are mentioned.

***Shodhala Nighantu*- (13th century A.D.)**

Ashwagandha kept into *Guduchyaadi varga* mentioned in '*Namasamgraha'* part first and its synonyms and indications are mentioned.

***Madanpal Nighantu*- (14th cent. A.D.)**

Ashwagandha kept into *Haritkyaadi varga* and its properties, synonyms, indications are mentioned.

***Kaidev Nighantu*- (15th cent. A.D)**

Ashwagandha kept into *Aushadhi varga* and its properties, synonyms, indications are mentioned.

***Raja Nighantu*- (15th cent. A.D.)**

It's 23 synonyms, properties and indications are mentioned under *Shatavhadi varga*.

***Bhavaprakasha Nighantu*- (16th cent. A.D.)**

Ashwagandha kept into *Guduchyadi varga* and its properties, synonyms, indications are mentioned.

Synonyms of *Ashwagandha*:-

Ashwagandha- Ashwagandha promotes sexual potency like that of horse.

Ashwagandha- Its root the part used, also emits horse's smell and promotes sexual potency like hoarse.

Marutaghni- It is useful in *vatika* disorders.

Balada- It provides strength.

Varahakarni- It is a herb with leaves resembling pig's ears.

Switrahara- Useful in leucoderma, on internal uses and external application.

Properties and actions:[32]

The properties of the drug as per API,

Rasa: Tikta, Kashaya

Guna: Laghu

Virya: Ushna

Vipaka: Madhura

Karma: Rasayana, Vatakaphaghna, Balya, Vajikarna, Shukrala

Therapeutic uses – *Sotha, Kshaya, Daurbalya, Vataroga, Klaibya, and Vishaghna*

Actions and uses in modern science:[33]

The roots are astringent, bitter, acrid, alexipharmic, somniferous**,** thermogenic, stimulant, aphrodisiac, diuretic, deobstruent and tonic. They are useful in leucoderma, constipation, insomnia**,** lumbar pain, nervous disorders, asthma, cardiac disorders**,** psoriasis, consumption, ulcers, carbuncles, scabies, marasmus of children, senile debility. Leaves are bitter and recommended in fever, painful swellings, inflammation of eye, syphilitic sores, hemorrhoids, tumours, tuberculous glands. Seeds are reported to be diuretic, hypnotic and are employed to coagulate milk.

Substitutes and adulterants:[34]

Ashwagandha (*Withania somnifera*) is used as a substitute for *Kakoli* and *Kshirakakoli* of *Ashtavarga*, which are identified as *Lilium polyphyllum* D. Don and *Fritillaria roylei* Hook. as per Ayurvedic Formulary of India, Part-I, published by Govt. of India.

Formulations and preparations:[35]

Ashwagandhadi churna, Ashwagandha rasayana, Ashwagandha ghrita, Ashwagandharishta, Ashwagandha taila, Brihat ashwagandha ghrita, Brihachchhagaladya ghrita, Saraswata churna, Nagabala ghrita.

DISCUSSION

Almost all parts of the plant *Ashwagandha* possess medicinal properties, particularly root, which has been used in *Ayurveda* as a powerful *rasayana* and *vajikarana*. Fruits, leaves and seeds of *Ashwagandha* have been traditionally used for the *Ayurvedic* system as aphrodisiacs, diuretics and for treating memory loss. *Ashwagandha* is considered as a *rasayana* herb, which works on a nonspecific basis to increase health and longevity. *W. somnifera* has been in use for over 2500 years to treat all kind of diseases and human ailments.[36] This herb is also considered as an adaptogen which is a nontoxic herb that works on a nonspecific basis to normalize physiological function, working on the HPA axis and the neuroendocrine system. The roots and berries of the plant are used in herbal medicine. In Ayurveda, the fresh roots are sometimes boiled in milk, prior to drying, in order to leach out undesirable constituents. The berries are used as a substitute for rennet, to coagulate milk in cheese making.[37] Roots of *Withania somnifera* used for the treatment of asthma, bronchitis, edema, leucoderma, anorexia, consumption, asthenia, anemia, exhaustion, aging, insomnia, infertility, impotence, paralysis, memory loss, immune- dysfunction, rheumatism, arthritis.[38,39,40,41] Fruits are used externally in ringworm.[42]The leaves are bitter and are recommended in fever, painful swellings. The flowers are astringent, depurative, diuretic and aphrodisiac. The seeds are anthelmintic and combined with astringent and rock salt removes white spots from the cornea. *Ashwagandharishta* prepared from it is used in hysteria, anxiety, memory loss, syncope, etc. It also acts as a stimulant and increases the sperm count.[43]*Ashwagandha* has *rasa* viz. *Tikta* (bitter), *Kashaya* (astringent); and *Laghu* (light) guna (properties). Though it mainly acts on *Vata* and *Kapha dosha*, it is considered to pacify *vata* by its *Ushnavirya* (hot potency); *Kapha* by *Tiktatwa* and *kashayatwa* (bitter and astringent flavour) and *laghutwa* (ability to produce lightness). It is one of the best *Rasayana* (adaptogen) and best among the *vajikarana* (aphrodisiac).The other actions on the general health are *balya* (strength promoting activity), *brimhana* (process of increasing the bulk of the body), s*hukrala* ((increases production of semen and sperm), *vrishya* (aids in ejaculation) etc.

CONCLUSION

Ashwagandha is an essential plant in various traditional system of medicine like *Ayurveda*. Almost all parts of this plant are used in different therapeutic purpose. *Ashwagandha* has been mentioned in *Brimhaniyamahakashaya*, *Balyamahakashaya* and *Madhuraskandha.* This root is widely used in the Indian system of medicine as alone or in combination with other plants and is used to treat fever, as diuretic, laxative, insomnia**,** lumbar pain, nervous disorders, asthma, cardiac disorders**,** psoriasis, marasmus of children, senile debility. Leaves are bitter and recommended in fever, painful swellings, and inflammation of eye. The root of *Ashwagandha* is regarded as tonic, aphrodisiac, narcotic, diuretic, anthelmintic, astringent, thermogenic and stimulant. It is one of the best nervine tonics of *Ayurveda*, the most ancient system of Medical Sciences. Present review highlights the various therapeutic uses mentioned by great Ayurveda sages. There is huge scope of further scientific research on various therapeutic aspect of this important medicinal plant.

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