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NARDOSTACHYS *JATAMANSI* (JATAMANSI): BRIDGING AYURVEDIC CONCEPTS AND CONTEMPORARY NEUROPHARMACOLOGY — A NARRATIVE REVIEW

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ABSTRACT

Jatamansi (Nardostachys jatamansi) is an established and traditional medicinal plant, used in various neuropsychiatric disorders and several other diseases. The drug is very well described in the Ayurvedic system of traditional Indian medicinal practice. It is said to possess *Medhya* (cognitive-enhancing), *manasika shamaka* (mind-calming) and *Hridya* (cardiotonic) actions. A large number of reports are available that describe its sedative, anxiolytic, antidepressant, antioxidant, anticonvulsant and neuroprotective actions, proving several claims made in traditional Ayurvedic literature. The present review aims to explain the properties of *Jatamansi*. that are explained in classical Ayurvedic texts and deals with the phytochemical constituents and pharmacological actions of *Jatamansi*. The literature search was carried out using databases such as PubMed, PMC, ScienceDirect and AYU journals, and from classical texts up to July 2025. The drug *Jatamansi* contains sesquiterpenes and is mainly attributed to *jatamansone* and *nardostachone*, which are responsible for CNS activity of the plant. Several experimental studies, as well as a few human clinical trials, have been conducted to establish the potential of the drug to treat several diseases, including those related to insomnia, anxiety, depression and neurodegenerative diseases. However, the studies conducted so far have some limitations, such as lack of standardization, unoptimized doses, and compromised quality of clinical trials. Thus, the review highlights the need for an integrated approach to carry out research on *Jatamansi*, using the knowledge of the plant as explained in the classical texts of Ayurveda, along with the principles of evidence-based pharmacology to establish the drug's therapeutic potential and safety.

Keywords: *Jatamansi, Nardostachys jatamansi*, Ayurveda, neuroprotection, anxiolytic, sedative, antioxidant, medicinal plants

INTRODUCTION: The roots of *Nardostachys jatamansi* have been used in Ayurveda for centuries to promote mental equilibrium or mental health. There are many plants described in the Ayurvedic classics that have psychotropic as well as neuroprotective actions and *Nardostachys jatamansi* is one of the most valued plants for its varied actions on the nervous system, which are used to promote mental health.

Jatamansi is a perennial herb found in the Himalayas, growing in India, Nepal, Bhutan and Tibet[1]. It is a member of the

family Valerianaceae. The rhizome and roots of *Jatamansi* are used for medicinal purposes. This herb has been used for treating various diseases such as *Unmada* (psychosis), *Apasmara* (epilepsy), *Anidra* (insomnia), *Chardi* (vomiting), *Hridroga* (cardiac disorders) and many other stress-related diseases.

Scientific works investigating the phytochemistry and pharmacology of *Jatamansi*, in the last few decades, have gained profound attention. Experimental studies reported important sedative, anxiolytic, antidepressant[2], anticonvulsant, antioxidant and neuroprotective activities. This provides paradigmatic explanations for many of its classical indications.

MATERIALS AND METHODS

This is a narrative review with the following methodology. The study was conducted through a literature search in PubMed, PMC (PubMed Central), ScienceDirect, and Google Scholar until July 2025, as well as in the AYU journals and the Orient Journal of Chemistry.

Some of the Keywords used are *Nardostachys jatamansi, Jatamansi*, Ayurveda, pharmacology of *Jatamansi, Jatamansone,* Sedative activity, Anxiolytic activity and Neuroprotective effects.

The literature included experimental pharmacology, phytochemistry, clinical studies, reviews, and ethnopharmacological articles.

Ayurvedic Perspective of *Jatamansi*

According to Ayurvedic classics, *Jatamansi* has the following properties: *Tikta* (bitter) and *Kashaya* (astringent) *rasa*, *Snigdha* (unctuous and oily) and *Guru guna* (heavy). *Sheeta virya* (cooling potency) and *Madhura vipaka* (sweet post-digestive effect). It pacifies *Vata* & *Pitta doshas*, and it is indicated in conditions like insomnia, epilepsy, psychosis, stress disorders and cardiac diseases.

These properties help in stabilizing and nourishing the nervous system. *Snigdha* and *Guru gunas,* along with the *sheetha virya* (cooling potency) nourish the body.

Phytochemistry

Several active phytochemicals have been isolated in the roots and rhizomes of *Jatamansi*. The main compounds are sesquiterpenes such as *jatamansone*, *nardostachone* and its derivative nardol from *Nardostachys jatamansi*; patchouli alcohol (PA) originating in Pachoulin. Besides these, it also comprises of iridoids, flavonoids, sterols, lignans, alkaloids and essential oils.

The identified main active component of the plant, Jatamansone has been shown to have CNS depressant[3] and tranquilising activity.

Pharmacological Actions

Animal models have confirmed the sedative and hypnotic activity of *Jatamansi* by way of reduced sleep latency and increased nREM (non-rapid eye movement) or total sleep duration in laboratory assays. The elevated plus maze and forced swim tests also showed anxiolytic[3] and antidepressant-like effects.

Biochemical studies indicate modulation of GABAergic pathways, monoamine neurotransmitters and inhibition of monoamine oxidase activity.[4]

Neuroprotective effects involve antioxidant activity, reduction of lipid peroxidation and neuronal protection against oxidative stress.

Additional pharmacological activities include anticonvulsant, hepatoprotective, anti-inflammatory and antimicrobial

activities

Table no.1 Ayurvedic Formulations Containing *Jatamansi* (Classical References)

Formulation	Classical Text	Chapter / Section	Sloka/Commentary/Reference
Kalyanaka Ghrita	Ashtanga Hridaya	Uttara Tantra – Unmada Chikitsa	Ch. 6, Sl. 26-31Sarvangasundara – arunadatta ed. Pt.Hari Sadashiva Shastri Paradakara
Mahakalyanaka Ghrita	Ashtanga Hridaya	Uttara Tantra – Unmada Chikitsa	Ch. 6, Sl. 32–34 Sarvangasundara – Arunadatta ed. Pt.Hari Sadashiva Shastri Paradakara
Panchagavya Ghrita	Charaka Samhita	Chikitsa Sthana – Apasmara Chikitsa	Ch. 10, Sl. 17-24 Ayurveda Deepika – Chakrapani Datta – Vaidya Yadavji Trikamji Acharya
Saraswata Ghrita	Yogaratnakara	Unmada Chikitsa	Sl. 40–45 Vidyotini Hindi commentary – Lakshmipati Shastri
Aravindasava	Bhaishajya Ratnavali	Balroga Adhikara	Ch. 71, Sl. 90–97 Siddhiprada – Prof. Siddhinandan Mishra
Dhanvantararishta	Ashtanga Hridaya	Chikitsa Sthana	Ch. 21, Sl. 73–80 Sarvangasundara – Arunadatta ed. Pt.Hari Sadashiva Shastri Paradakara
Saraswatarishta	Bhaishajya Ratnavali	Unmada Roga Adhikara	Ch. 24, Sl. 185–192 Siddhiprada – Prof. Siddhinandan Mishra
Brahmi Vati	Bhaishajya Ratnavali	Unmada Roga Adhikara	Ch. 24, Sl. 118–122 Siddhiprada – Prof. Siddhinandan Mishra
Manasamitra Vatakam	Sahasrayoga	Ghrita–Gutika Prakarana	Edited and translated by Dr.K.Nishteswar and Dr.R.Vidyanath
Smritisagara Rasa	Rasayoga Sagara	Medhya Rasayana / Manas Roga	Hariprapanna Sharma edition
Unmada Gajakesari Rasa	Rasendra Sara Sangraha	Unmada Chikitsa	Ch. 1, Sl. 45–48 Rasavidyotini – Prof. Siddhinandan Mishra
Sarpagandha	Ayurvedic	AFI Part-I	Monograph

Ghana Vati	Formulary of India		reference only
Mamsyadi Kwatha	Bhaishajya Ratnavali	Unmada Roga Adhikara	Ch. 24, Sl. 70–74 Siddhiprada – Prof. Siddhinandan Mishra
Dashanga Lepa	Sharangadhara Samhita	Madhyama Khanda	Ch. 11, Sl. 86–88 Dipika of Aadhamalla ed. Parasurama shastri
Rakshoghna Dhoopa	Kashyapa Samhita	Kalpasthana / Graha Chikitsa	Dhupakalpadyaya Vidyotini commentary – Satyapala Bhishagacharya

Clinical Applications

According to classical Ayurvedic indications and modern evidence, *Jatamansi* may help in insomnia, anxiety disorders, depression, stress-related disorders, epilepsy, cognitive dysfunction and neurodegeneration.

In Ayurveda, it is often paired with *Brahmi (Bacopa monnieri), Tagara (Valeriana wallichii)*[5], *Ashwagandha (Withania somnifera)* and *Shankhapushpi (Convolvulus pluricaulis)* seeds for a synergistic effect in therapy.

Safety and Dosage

Jatamansi shows a broad safety profile in experimental toxicity studies. When appropriately administered, traditional Ayurvedic use also indicates good tolerability.

Common Ayurvedic dosage includes 1–3 g/day of *churna* (powder) and 20-30 ml of decoction. However, long-term safety studies and herb-drug interaction data remain limited.

DISCUSSION

This work sits at the intersection of Ayurvedic pharmacodynamics and modern neuropharmacology. Ayurvedic descriptor records such as *Sheeta virya* and *Manoshodhaka karma* (mind-cleansing action) closely parallel experimentally demonstrated sedative[5], anxiolytic, and neuroprotective effects.

These traditional claims are supported by current evidence, but they have limitations, primarily related to small sample sizes, a deficiency of standardized extracts, and insufficient high-quality clinical trials. Standardization, mechanistic studies and well-designed randomized controlled trials should be priorities in future research.

CONCLUSION: *Nardostachys jatamansi* is an important medicinal herb with great neuropsychological and neuroprotective value. Classical Ayurvedic texts extensively describe its sedative, nootropic, and restorative qualities. Many traditional claims have been substantiated by modern pharmacological investigations, which show sedative, anxiolytic, antidepressant, antioxidant, anticonvulsant and neuroprotective actions. Larger clinical trials, conducted in a rigorous manner and with standardized formulations, are needed to cement therapeutic guidelines.

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