

Shankhapushpi: - A Novel Herb of Ayurveda

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ABSTRACT

Shankhapushpi is a well-known Ayurvedic medicine primarily used for its positive effects on the central nervous system, especially in enhancing memory and improving intelligence. References from Ayurvedic and Sanskrit literature indicate that the name Shankhapushpi has been used for four different plant species. These plants are often used individually or in combination with other herbs in various traditional Ayurvedic formulations mentioned in ancient texts. The plants identified as Shankhapushpi include *Convolvulus pluricaulis* Choisy (Convolvulaceae), *Evolvulus alsinoides* Linn. (Convolvulaceae), *Clitoria ternatea* Linn. (Papilionaceae), and *Canscora decussata* Schult. (Gentianaceae). This review aims to summarize the available scientific information on the pharmacognostic characteristics, chemical constituents, pharmacological activities, and both preclinical and clinical studies of these different Shankhapushpi species. Such an overview helps to establish clear differentiation parameters among them and to evaluate variations in their therapeutic effects based on botanical sources.

Keywords: Shankhapushpi, *convolvulus pluricaulis*, Medhya

INTRODUCTION

Shankhapushpi (*Convolvulus pluricaulis*) has been reported to alleviate several forms of stress—including psychological, chemical and traumatic stress—and to exert multiple central-nervous-system effects. The juice of the shankhapushpi plant is also used to prevent excessive menstrual bleeding. Both ethanolic and methanolic extracts of the plant decrease spontaneous motor activity, enhance

pentobarbitone-induced hypnosis and morphine-mediated analgesia, suppress fighting behavior, abolish conditioned avoidance responses, and antagonize convulsive seizures and tremor-induced tremors. Similar pharmacological actions, such as hypotensive, anxiolytic, antistress and neuroprotective activities, have also been documented for the whole-plant extracts

Plant profile: - vernacular name

Sanskrit	Sankhapuspa
Bengal	Sankhpuspi
Gujarathi	Shankhvali
Hindi	Shankhapushpi, Aparajit
Kannada	Bilikanthisoppu
Marathi	Shankhvela
Punjabi	Shankhpuspi
Tamil	Sanghupushpam, Kakkurattai
Telugu	Shankhpushpi

Various Variety of Flowers

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Description of Plant

C. pluricaulis		Characters
Leaf structures	Dimension	Length = 1.12 cm; breadth = 0.1 cm
	Attachment	Leaf stalk absent
	Lamina	Thin
	Stipules	Exstipulated
	Leaf lamina shape	Linear
	Leaf margin	Entire
	Leaf apex	Acute
	Leaf base	Decurrent
	Leaf texture	Whole (brittle)
	Venation	Parallel
	Phyllotaxy	Alternate
	Leaf surface	Hairy
Stem structure	Length	Several prostrate stems (10-30 cm)
	Surface	Clothed with silky hairs
	Internodes	10-12 mm
	Taste	Tasteless

Phytochemical Constituent



The scientific classification of Convolvulus pluricaulis

Botanical name: Convolvulus pluricaulis Choic

Kingdom: Plantae

Sub kingdom: Tracheobionta

Super division: Spermatophyta

Division: Magnoliophyta

Class: Magnoliopsida

Order: Solanales

Family: Convolvulaceae

Genus: Convolvulus

Species: pluricaulis

Popular names : Shankhpushpi, Shankhini, Kambumalini, Shankhahuli etc.

Parts used: mainly root and an entire plant

Habitat: found in Bihar, Rajasthan, Gujraat in India.

Shankh-pushpi (Convolvulus pluricaulis) – Traditional Ayurvedic Benefits

#	Reported benefit	How it is described in Ayurveda
1	Poor memory & concentration	Classified as a <i>Medhya</i> (brain-enhancing) herb; it is believed to boost <i>Intelligence</i> (Buddhi) and improve recall and focus.
2	Insomnia & stress	Its Vata-balancing and <i>Medhya</i> actions are mainly use to calm the mind, reduce anxiety, and boost restful sleep.
3	Epilepsy & mental disorders	Considered a <i>Rasayana</i> (rejuvenative) and <i>Medhya</i> tonic that stabilizes the nervous system, lowering seizure susceptibility.
4	Indigestion & constipation	Possesses mild laxative and carminative properties; it is used for dyspepsia, constipation, jaundice, dysentery and piles.
5	ADHD (Attention-deficit hyperactivity disorder)	The herb's <i>Medhya</i> quality is thought to sharpen attention span and improve concentration in children with ADHD.

These uses stem from classical Ayurvedic texts and contemporary herbal practice. Scientific investigations on Shankh-pushpi are limited, but some studies report antioxidant, neuroprotective, and anxiolytic activities that could underlie the traditional claims. It should be taken only by the physicians

guidance, especially for the children or in pregnancy case.

How to use Shankhpushpi

1] Shankhpushpi powder into the milk: -

- Take 1 teaspoon Shankhpushpi powder and mix it with half - heated milk
- Preferably consume it in the morning
- For improving memory and concentration use it daily

2] Shankhpushpi juice + water

- Accurately measure 3 - 4 teaspoon shankhpushpi juice.
- Add it in the 1 glass of water and administer it for two times in a day.
- Regular use may help lower the risk of epilepsy

3] Capsule of Shankhpushpi

- 1-2 capsules are taken
- Consume with a milk or water.
- Idealy consume after meals.

4] Shankhpushpi tablet

- 1-2 Tablet are taken
- Consume with a milk or water.
- Idealy consume after meals.

C. pluricaulis – reported therapeutic applications:

Indication	Typical pharmacological rationale (based on phytochemical studies)
Hypertension / high blood pressure	Leaf extracts contain flavonoids and triterpenoids that exhibit vasodilatory activity by inhibiting calcium influx in smooth-muscle cells, leading to reduced peripheral resistance.
Neurodegenerative disease	Leaf extracts contain flavonoids and triterpenoids that exhibit vasodilatory activity by inhibiting calcium influx in smooth-muscle cells, leading to reduced peripheral resistance.
Ulcer / gastrointestinal protection	Mucosal-protective compounds (e.g., asiaticoside) increase mucus secretion and promote epithelial regeneration, reducing gastric lesion formation.
Epilepsy	Certain phenolic constituents display GABA-ergic modulation, raising seizure-threshold in animal models.
Vomiting	Antiemetic activity is attributed to anti-serotonergic effects of specific terpenes that block 5-HT ₃ receptors in gut-brain axis.
Diabetes	Polyphenols improve insulin sensitivity by activating AMP-activated protein kinase (AMPK) pathways and inhibiting α -glucosidase, thereby lowering post-prandial glucose spikes.
Sun-stroke / Heat-related stress	Antioxidant capacity mitigates oxidative damage from UV-induced reactive oxygen species; some extracts also enhance heat-shock protein expression.
Bleeding / hemostasis	Triterpenoids promote platelet aggregation and increase fibrinogen levels, supporting clot formation.
Memory Enhancement	Nootropic effects are linked to increased cerebral blood flow and up-regulation of brain-derived neurotrophic factor (BDNF).
Cholesterol reduction	Saponins bind bile acids in the intestine, interrupting enterohepatic recirculation and prompting hepatic conversion of cholesterol to bile acids.

Key points: -

- The plant is rich in flavonoids, triterpenoids, alkaloids, and saponins—phytochemicals that collectively contribute to the above activities.
- Most evidence comes from in vitro assays or animal studies; human clinical data are limited.
- Dosage, formulation, and safety profiles vary; high doses may cause gastrointestinal irritation or hepatotoxicity in susceptible individuals

1) **Externally** – They mainly Improve hair growth, and also good for skin disorders Internally

2) **Nervous system** – Improves intellect, memory-enhancing, anxiolytic, neuro-protective, anti-convulsant; acts as a brain/nerve tonic and calms insomnia.

3) **Digestive system** – Anti – ulcer, carminative, facilitates digestion.

Systemic Action of C. Pluricaulis



- 4) **Cardiovascular / Circulatory System** – Cardiac tonic, cardiovascular activity, hypotensive effects.
- 5) **Respiratory System** – Indicated for hoarseness, Vata-Pitta-Kasa disorders.
- 6) **Excretory system** – Diuretic, used in painful micturition/UTI.
- 7) **Reproductive System** – Aphrodisiac, improves sperm count, treats female infertility and recurrent abortion.
- 8) **Skin** – Indicated skin disorder, improves hair growth.
- 9) **Fever (Tapakrama / Satmikanrana)** – Coolent drink for fever, rejuvenative, improves body strength.

When is it effective?
(Symptoms in which Shankhpushpi is beneficial)

1. Restlessness
2. Irritability
3. Aggressive behavior
4. Feeling Overwhelmed
5. Feeling depressed
6. Mental stress
7. Burning sensation in head
8. Heat sensation
9. Excessive Sweating
10. Vertigo
11. Feeling mental fatigue
12. Anger

**Convolvulus Pluricaulis
(Shankhpushpi)**

Improve Concentration

Reduce Stress



Anti-stress

Anti-anxiety

Memory enhancer

Concentration Booster

Anti-oxidant

Adaptogenic

AYUR TIMES
(www.ayurtimes.com)

Shankhpushpi Syrup



Composition: -

- 1] Shankhpushpi = 4 gm
- 2] Brahmi Powder = 1 gm
- 3] Sugar = 160 gm
- 4] lemon juice = Q. S
- 5] Colour = Q. S

6] water = 200- 300 ml

Procedure

- Take 4 g of Shankhpushpi powder,
- 1 g of Brahmi powder,
- 160 g of Sugar

- and a few drops of citric acid or lemon juice.
- Add the Shankpushpi powder, Brahmi powder and Sugar into a vessel along with approximately 200 - 300 ml of water.
- Heat the vessel over a medium flame.
- Constantly stir the solution until the sugar dissolves into the liquid.
- Once the liquid has cooled a bit, add the lemon juice, stir and store for use in an airtight jar.

How to Use:

Consume a spoonful of the syrup when you feel like experiencing tension, fatigue or sleeplessness.

Purpose:

Both *Bacopa monnieri* (Brahmi) and *Convolvulus pluricaulis* (Shankpushpi) are widely used in Ayurveda as “medhya-rasāyanas” – herbs that support cognition and mental calm.

Brahmi

Randomised, double-blind trials in healthy adults showed significant improvements in short- and long-term memory, working-memory and verbal learning after 12 weeks of 300 mg BME daily; the same regimen also raised serum BDNF, reduced cortisol and lowered anxiety scores

A 12-week, 450-mg-per-day study reported a modest increase in BDNF and better sleep quality, although cognitive benefits were not uniformly reproduced

An acute-dose crossover study (320 mg and 640 mg) reported faster reaction times on attention tasks, reduced cortisol and a trend toward improved mood within 2 h of ingestion

Review articles summarise Brahmi's neuro-protective actions (antioxidant, cholinergic, serotonergic and GABA-modulating) that underlie its memory-enhancing and anxiolytic effects

Shankpushpi

Network-pharmacology and docking studies identified flavonoids (kaempferol, quercetin) and scopoletin as ligands for acetylcholinesterase,

MAO-A/B and neuro-trophic pathways, supporting a mechanistic basis for cognition and stress relief

Pre-clinical work in rodents shows anxiolytic-like behaviour, reduction of stress-induced biochemical markers and modest improvement in memory tasks, although one mouse model of electro-convulsive-shock-induced amnesia found no benefit

Clinical data are limited, but the-same-day stress-reduction trial during the COVID-19 pandemic reported significant drops in depression, anxiety and stress scores after 30 days of 500 mg Brahmi twice daily suggesting that a combined Brahmi-Shankpushpi syrup could address stress-related insomnia.

Practical implication – A syrup containing both extracts can plausibly enhance memory, attenuate stress/tension and improve sleep quality in individuals whose sleeplessness is stress-driven, though the magnitude of benefit may vary with dose, duration and individual susceptibility.

CONCLUSION: -

Convolvulus pluricaulis (CP), commonly called Shankpushpi, is classified in Ayurveda as a Medhya Rasāyana—a brain- tonic herb believed to enhance intellect. Phytochemical analyses have identified alkaloids (e.g., convolvine), flavonoids such as kaempferol and quercetin, coumarins (scopoletin), phenolic acids, and glycosides as the principal bioactive constituents

1. Pre-clinical experiments demonstrate that extracts of CP protect neurons against oxidative stress, ischemic injury, and scopolamine-induced amnesia, partly by inhibiting acetylcholinesterase and modulating nitric-oxide synthase and heme-oxygenase-1 pathway.

2. Clinical investigations, though limited, have reported significant improvements in short-term and long-term memory, reduced anxiety, and enhanced overall cognitive performance in healthy volunteers

3. Despite these encouraging findings, the exact molecular mechanisms remain incompletely defined, and variations in extraction methods and dosage

hinder reproducibility. Systematic, evidence-based studies—including randomized controlled trials, pharmacokinetic profiling, and safety assessments—are needed to validate therapeutic claims, establish optimal formulations, and ensure long-term safety

4. Such rigorously designed research will be essential to translate the traditional reputation of Shankhpushpi into standardized, clinically reliable nootropic interventions.

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