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Review Article

A COMPREHENSIVE REVIEW OF *CHANDRASHURA* (*Lepidium Sativum* LINN.) WITH SPECIAL REFERENCE TO AYURVEDA

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ABSTRACT

Chandrashura (Lepidium sativum Linn.) is an important medicinal and nutritional plant widely documented in Ayurvedic *Nighantus* such as *Shodhala Nighantu, Bhavaprakasha Nighantu, Nighantu Ratnakara*, and *Nighantu Adarsha*. The present review aims to critically compile and analyze classical Ayurvedic references alongside pharmacognostical, phytochemical, nutritional, and experimental research data related to *Chandrashura*. Classical texts describe the drug with *Katu–Tikta Rasa, Laghu Guna, Ushna Veerya,* and *Katu Vipaka*, attributing to it *Vatakaphahara* action and Karmas such as *Stanyajanana, Balya, Vrishya, Ruchya,* and *Shoolaprashamana*. Modern investigations have identified bioactive constituents including glucotropaeolin, sinapic acid, alkaloids, sterols, and essential micronutrients, which support its documented antioxidant, diuretic, and fracture-healing activities in experimental models. Standardization parameters such as ash values and extractive values further contribute to ensuring drug quality and safety. By integrating classical *Dravyaguna* concepts with contemporary scientific evidence, this review highlights the therapeutic relevance of *Chandrashura* in nutritional support, women's health, and *Vata*-dominant disorders. The study underscores the necessity of systematic clinical trials to validate its traditional claims and strengthen its application in Ayurvedic education and evidence-based practice.

INTRODUCTION

Chandrashura (Lepidium sativum Linn.), belonging to the Brassicaceae family, is traditionally used in Ayurveda as both a dietary and medicinal plant. It is cultivated widely across India and valued for its easy availability and therapeutic versatility. Classical Ayurvedic literature recognizes *Chandrashura* for its role in managing *Vata*- and *Kapha*-related disorders, while modern research has increasingly explored its pharmacognostical, phytochemical, and nutritional attributes. Despite its extensive traditional usage, a consolidated review integrating classical references with scientific findings remains limited. Therefore, the present article aims to comprehensively review *Chandrashura* from both Ayurvedic and modern perspectives to support academic learning and future clinical research.

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Nighantu Kala [1,2,3]

- It is mentioned in Nighantus like *Shodala Nighantu*, *Bhavaprakash Nighantu, Nighantu ratnakara, Nighantu adarsha*.
- In *Bhavaprakasha*, *Chandrashura* mentioned under *Haritakyadivarga*.
- In *Shodala*, quoted as *Stanya* in *Shatapushpadi varga*.
- *Nighantu adarsha* mentioned in *Raajikadi varga.*

Nirukti [1]

चन्द्रशूरं -चन्द्र इव शूरः।

Table 1: *Gana / Varga* [1,2,4]

Nighantu	***Varga***
Bhavaprakasha	*Haritakyadivarga*
Shodala	*Shatapushpadi*
Nighantu Adharsha	*Raajikadi*

Table 2: Synonyms [1,2,3,4]

Granth	**Sho.Ni**	**Bha.Ni**	**Ni.Ra**	**Ni.A**
Bhadra	-	+	-	-
Chandrashura	+	+	+	-
Charmahantri		+		-
Chandrika	-	+	-	-
Darakrusna	+	-	-	+
Dheergabija	+	-	-	+
Kaalameshi	+	-	-	+
Kaaravi	-	+	-	-
Nandini	-	+	-	-
Suvasara	-	+	-	-
Raktaraaji	+	-	-	+
Vasapushpa	-	+	-	-

Table 3: Vernacular Names[10]

Arab	Hurf, Half, Jarjir
Assam	Halim
Bengal	Chand shura, Halim,
English	Garden cress
Gujarat	Aseriyo, Aseliyo, Halim, Asahio
Hindi	Chandsur, Chansaur, Halim
Kannada	Alavibija, Kapila, Alvi
Kash	Alian
Malayali	Asali
Marathi	Abaliva, Haliva, Aliva
Oriya	Chandasara
Pers	Turrah-tishah, Haleh, Tondri
Punjabi	Holon, Taratej, Shargundei, Halim
Tamila	Allivirai
Telugu	Aditya, Adityalu, Aadalu, Adala-vitala
Urdu	Halim

Table 4: ***Rasapanchaka*** [1,2,3,5]

	Bha.Ni	***Ni.R***	***Ni.A***	***P.V.Sh***
Rasa				
Katu	-	-	+	+
Tikta	+	+	+	+
Guna				
Laghu	-	-	-	+
Ruksha	-	-	-	+
Tikshna	-	-	-	+
Veerya				
Usna	-	+	+	+
Vipaka				
Katu	-	-	+	+

Rasa- *Katu,Tikta,* ***Guna-*** *Laghu* ***Veerya -*** *Usna,* ***Vipaka –*** *Katu*

Table 5: *Doshaghnata*[1,2]

	Bha. Ni	Ni.A
Kaphavatashamaka	+	+
Vatahara	+	-

***Doshaghnata* -** *Vatakaphahara*

Table 6: *Karma* According to Classics[1,2,3,4]

Karma	**Sho.Ni**	**Bha.Ni**	**Ni R**	**Ni A**
Stanyajanana	+	-	+	+
Shoolaprashamana	+	-	-	-
Balya	+	+	-	+
Vatashoolaghna	+	-	-	-
Ruchya	-	-	+	-
Vrushya	+	-	+	-

***Karma* –** *Stanya, Balya, Ruchya, Vrushya*

Table 7: *Rogaghnata* [1,2,3,4]

	Sho. Ni	**Bha.Ni**	**Ni R**	**Ni A**
Vatavyadhi	+	+	-	+
Tvakadosh	-	-	+	+
Hikka	-	+	-	-
Vatashlesmatisara	-	+	-	-
Raktavyadhi	-	+	-	-
Vatagulma	+	-	+	-
Shwasa	-	+	+	-

***Rogaghnata* –** *Vatavyadhi, Hikka, Swasa* etc

Table 8: Classical Formulations of *Chandrashura*[6,7]

Yogas	***Adhikarana***	**References**
Chandrashura rasa	*Hikkadhikara*	*Bhavaprakasha*
Kasturyadi gutika	*Gutika prakarana*	*Sahasrayoga*

Part Used[10]: Seed, leaf, root, whole plant

Dose[10]: Seed powder 3-6 gm

Taxonomical Position[11]

Kingdom: Plantae
(unranked): Angiosperms
(unranked): Eudicots
(unranked): Rosids
Order: Brassicales
Family: Brassicaceae
Genus: *Lepidium*
Species: *L. sativum*
Binomial name: *Lepidium sativum*

Morphological Features Lepidium Sativum[9]

- Small annual, herb, glabrous, upto 50cm high
- Stem erect, glabrous.
- Leaves variable, entire, radical leaves long petioled, twice pinnatisect, cauline leaves sessile, linear-oblong, entire.
- Flowers bisexual, white, small, 2mm across in elongated racemes.
- Fruit a siliqua, small, orbicular-ovate, notched at apex, winged.
- Seeds reddish-brown, shining, 2 mm length, width1 mm, solitary in each cell.
- Flowering and Fruiting: December – January.

Distribution[10]

Cultivated almost throughout India covering different agroclimatic zones.

Cultivation and Propagation[10]

- It thrives best on moist, loams, also grown any good light soil.
- It can be grown at all altitudes, all the year round, but the best crop is obtained in the winter season.
- Seeds are sown in the plains from September to February and on the hills, from March to September.
- They are sown thick and covered with soil until germination start.
- In a few days after sowing, the plants are ready for first harvesting.
- To get a continuous supply of leaves, seed sowing is done in succession at interval of 8 days.

- When plants are grown for garnishing seeds are sown in open situations in shallow drills 20 -30 cm apart.
- Weeding and irrigation once a week is given during the dry weather.
- The crop is ready for harvest in 4 - 6 weeks when used for salad.
- Few plants are left in the ground until the seeds are fully mature.
- The plants are the pulled out, dried and seeds separated by threshing and stored.

Trade and Commerce[10]

Retail market price seed Rs. 160 per Kg

Identity Purity and Strength[8]

Foreign matter - Not more than 2%

Total Ash - Not more than 8%

Acid insoluble Ash - Not more than 0.5%

Alcohol soluble extractive - Not less than 13%

Table 9: Chemical Constituents (plant, aerial part, leaf, seed)[10]

Seeds	Seed oil	Leaf	Plant
Alkaloids, lepidine, glucotropaeolin, N,N-diabenzyl urea, sinapic acid, sinapin, carotene, cellulose, niacin, calcium, iron, thiamine, phosphorus, riboflavin, uric acid	Palmitic, stearic, **oleic, linolenic**, arachidic, behenic, lignoceric acids, benzyl isothiocyanate, benzyle cyanide, Sterol, sitosterol	Protein, fat, carbohydrates, Mineral, calcium, phosphorus, trace elements- iron, nickel, cobalt, iodine, vit A, thiamine, riboflavin, niacin, ascorbic acid	Glucotropoelin, 4-methoxyglucobrassicin, sinapine, sinapic acid, beta-sitosterol, benzylcyanide, calmodulin, sinapolyglucose, esters of caffeic,p-coumaric, ferulic, quinic acids, protein, minerals, vitamins, 5-3- dihydroxy 7,8,4-tetramethoxyflavone, 5-3-dihydroxy-6,7,4- tetramethoxyflavone,

Table 10: Nutritional value per 100 g[11]

Calories 32	% Daily Value
Total Fat 0.7 g	
Saturated fat 0 g	1%
Polyunsaturated fat 0.2 g	0%
Monounsaturated fat 0.2 g	0%
Cholesterol 0 mg	0%
Sodium 14 mg	0%
Potassium 606 mg	17%
Total carbohydrate 6g	2%
Dietary fiber 1.1 g	4%
Sugar 4.4 g	1.4%
Protein 2.6 g	5%
Vitamin A	138%
Vitamin D	0%
VitaminB-12	0%
Vitamin C	115%
Vitamin B-6	10%
Calcium	8%
Iron	7%
Magnesium	9%

Table 11: Research Profile [12,13]

Research Activity	Part Used
The effects of Lepidium sativum on fracture induced healing in rabbits.	Seeds
Antioxidative activity of different parts of the plant Lepidium sativum Linn.	An ethanolic extract of cress (*L. sativum* L.) shoot, leaf, stem and seed.
Evaluation of diuretic activity of lepidium sativum in rats.	Aqueous and methanol extracts of the dried seeds.

DISCUSSION

The multifaceted therapeutic profile of *Chandrashura* described in classical texts is well supported by its *Rasapanchaka* and *Karma*. Its *Ushna Veerya* and *Tikshna* properties facilitate deep tissue penetration, explaining its efficacy in *Vatavyadhi*, *Hikka, Shwasa,* and *Shoola*. Classical formulations such as *Chandrashura Rasa* and *Kasturyadi Gutika* further substantiate its clinical relevance. Pharmacognostical evaluation confirms characteristic features of the Brassicaceae family, including siliqua fruits and tetradynamous stamens, validating its botanical identity. The presence of glucotropaeolin and its degradation product benzyl isothiocyanate provides a biochemical basis for the experimentally observed antioxidant and diuretic activities. Nutritional analysis showing high levels of vitamin C, potassium, iron, and calcium supports its traditional use as *Balya* and in nutritional supplementation. Experimental studies demonstrating fracture-healing and antioxidant effects lend scientific credibility to classical claims, particularly in *Vata*- related and degenerative conditions. Quality control standards ensure safety and reproducibility, strengthening its therapeutic applicability.

CONCLUSION

Chandrashura (*Lepidium sativum* Linn.) represents a classical Ayurvedic drug with substantial therapeutic and nutritional significance. The convergence of traditional *Dravyaguna* descriptions with modern pharmacognostical, phytochemical, and experimental findings validates its role in managing *Vata–Kapha* disorders, nutritional deficiencies, and women's health conditions. Standardized cultivation practices and quality control measures further enhance its clinical reliability. Future well-designed clinical studies are essential to substantiate its galactagogue and *Vrishya* claims, thereby strengthening its integration into evidence-based Ayurvedic practice and academic curricula.

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