

**KULATTHA (*DOLICHOS BIFLORUS* LINN.) AS A FUNCTIONAL FOOD:  
AN INTEGRATIVE REVIEW OF *BRIHATRAYI* AND  
ETHNOBOTANICAL EVIDENCE**

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**ABSTRACT**

Kulattha (*Dolichos biflorus* Linn.), commonly known as horse gram, mentioned as both a dietary and therapeutic substance in *Ayurveda*. **Methodology:** The present study will focus on the potential of herb Kulattha narrated by *Brihatrayi* - *Charaka Samhita*, *Sushruta Samhita*, and *Ashtanga Hridaya* and Ethnobotanical Evidence. **Results:** The analysis of *Rasapanchaka* revealed the predominance of *Kashaya Rasa*, *Ushna Virya*, and *Agni-Vayu-Prithvi Mahabhuta* dominance, supporting its *Deepana*, *Pachana*, *Lekhana*, and *Srotoshodhana* properties. Classical references describe *Kulattha*(*Dolichos biflorus* Linn.), as beneficial in conditions such as *Kasa* (cough), *Shwasa* (dyspnoea), *Peenasa* (sinusitis), *Arsha* (haemorrhoids), *Gulma* (abdominal masses), and *Ashmari* (urinary calculi). Ethnobotanical evidence demonstrates its

widespread use in traditional food preparations including *Kollu Podi*, *Rasam*, *Masiyal*, *Paratha*, and *Idli*, which are consumed for weight management, respiratory health, digestive support, and metabolic disorders. Nutritionally, *Kulattha* (*Dolichos biflorus* Linn.), is rich in protein, dietary fibre, iron, calcium, phosphorus, potassium, magnesium, zinc, copper, and manganese while possessing low fat content and a low glycaemic index. **Conclusion:** *Kulattha* (*Dolichos biflorus* Linn.), as a valuable functional food capable of promoting health, preventing disease, and supporting overall well-being.

**KEYWORDS:** *Kulattha, Ayurveda, Brihatrayi, Rasapanchaka, Panchmahabhuta, Ethnobotany, Functional Food.*

## INTRODUCTIONS

*Kulattha (Dolichos biflorus Linn.)* esteemed in Ayurvedic medicine, is promising herbs due to their historical medicinal usage since ancient era, as all of us know *Ayurveda* is the most ancient medical science which has been serving the mankind in terms of providing a comprehensive, natural and holistic cure for many diseases related to body and mind, apart from being the best in providing basic formulas for prevention of diseases.

There are three main treatises which are considered most authentic and standard references for *Ayurveda* called as '*Brihat Trayees*' or the 'Greater Trio of *Ayurveda*' such as *Charaka Samhita, Sushruta Samhita* and *Ashtanga Sangraha*.

*Charaka Samhita* is the *Agnivesh Tantra* narrated by *Acharya Agnivesh*, which is further recited by *Acharya Charaka* and *Sushruta Samhita* is the *Sausrut Tantra* recited by *Vridha Sushruta* and further elaborated by *Acharya Sushruta*. *Ashtanga Hridayam Samhita* and *Ashtanga Sangrah* composed by *Vaghbata*.

Further, ancient Ayurvedic lexicons have classified herbs as *Aushadha dravya* i.e. potent medicinal herbs and *Ahara dravya* i.e. food and nutraceuticals. Moreover, *Ahara* is considered as the causative factor for *Sthiti* (presence), *Utpatti* (origin) and *Laya* (dissolution) of *Brahmaadiloka* (world/ heaven).<sup>[1]</sup>

## AIM AND OBJECTIVE

- Review of *Kulattha* of *Charak Samhita, Sushruta Samhita & Ashtang Sangrah*.
- To study Rasapanchaka (properties) of enlisted herb *Kulattha (Dolichos biflorus Linn.)*.
- To study karma of enlisted herb *Kulattha(Dolichos biflorus Linn.)*.
- *To establish kulattha (Dolichos biflorus Linn.) as functional food.*

## MATERIAL AND METHOD

**Table No. 01: Ayurvedic Energetics of enlisted Herb *Kulattha (Dolichos biflorus Linn.)*<sup>[2,3,4]</sup>**

S.No.	<i>Brihatrayi</i>	<i>Rasa</i>	<i>Guna</i>	<i>Virya</i>	<i>Vipaka</i>
1.	<i>Charaka Samhita</i>	<i>Kashaya</i>	<i>Ushana</i>	<i>Ushana</i>	<i>Amla</i>
2.	<i>Sushruta Samhita</i>	<i>Kashaya</i>	<i>Ushana</i>	<i>Ushana</i>	<i>Katu</i>
3.	<i>Ashtanga Hridayam</i>	-	<i>Ushana</i>	<i>Ushana</i>	<i>Amla</i>

**Table No. 02: Karma(actions) of enlisted Herb *Kulattha(Dolichos biflorus Linn.)*<sup>[5,6,7]</sup>**

Sr.No.	<i>Karma (actions)</i>	<i>Ch.S.</i>	<i>Su.S.</i>	<i>As.H.</i>
1.	<i>Swedhoupage</i>	+	-	-
2.	<i>Kaphaanilahara</i>	+	+	+
3.	<i>Raktapittakar</i>	-	-	+
4.	<i>Sukarahara</i>	+	-	-
5.	<i>Sukarashmarinashak</i>	-	+	+
6.	<i>Gulmhara</i>	-	+	-
7.	<i>Sangrahik</i>	+	+	-
8.	<i>Kasahara</i>	+	+	+
9.	<i>Peenasahara</i>	-	+	+

### ➤ *Rogaadikara of enlisted Herb Kulattha (Dolichos biflorus Linn.)*

*Kulattha (Dolichos biflorus Linn.)* is a well-known medicinal pulse described in the *Bṛhatrayi* for its significant therapeutic utility in various disease conditions. In *Susruta Samhita*, *Kulattha (Dolichos biflorus Linn.)* has been indicated as *Sukrasmarihara* (useful in seminal calculi and urinary stones), *Gulmahara* (alleviates abdominal masses or lump-like disorders), *Pinasahara* (beneficial in chronic rhinitis and sinusitis), and *Kasahara* (relieves cough)<sup>8</sup>. In *Caraka Samhita*, *Kulattha (Dolichos biflorus Linn.)* is described as *Kasahara* (anti-tussive), *Hikkahara* (helpful in hiccups), *Svasahara* (beneficial in dyspnoea and respiratory disorders such as bronchial asthma), and *Arsohara* (useful in haemorrhoids/piles).<sup>[9]</sup> Similarly, *Aṣṭanga Hṛdaya* mentions *Kulattha (Dolichos biflorus Linn.)* as *Sukrasmarihara* (lithotriptic and useful in urolithiasis), *Svasahara* (relieves breathlessness), *Pinasahara* (effective in chronic sinusitis), *Kasahara* (alleviates cough), and *Arsohara* (beneficial in piles).<sup>[10]</sup> These classical references highlight the importance of *Kulattha (Dolichos biflorus Linn.)* in the management of urinary calculi, respiratory ailments, anorectal disorders, and diseases associated with *Kapha* and *Vata doṣas*. Modern correlations of these conditions include urolithiasis (kidney/urinary stones), bronchial asthma, chronic cough, chronic rhinitis/sinusitis, haemorrhoids (piles), persistent hiccups, **and** abdominal

masses or functional gastrointestinal disorders, demonstrating the broad therapeutic potential of *Kulattha (Dolichos biflorus Linn.)* described in *Ayurvedic* literature.

**Table No. 03: Ethno botanical food recipes of *Kulattha(Dolichos biflorus Linn.)*<sup>[11]</sup>**

S. No.	Food Recipes	Composition and Description	Uses and Therapeutics
1.	<b><i>Kollu podi</i></b>	Homemade protein-rich powder Horse gram is the main ingredient, combined with spices like garlic and peppercorns. Mixed with hot rice and a teaspoon of ghee. It has less fat and more protein than other legumes. High in potassium, calcium, and iron, and offers a good amount of protein.	As the <b>weight loss diet</b> . To treat <b>asthma</b> , kidney stones, and jaundice. <b>Lower cholesterol levels.</b> Help in <b>coughs and colds</b> . Also improves digestion.
2.	<b><i>Kollu paruppu rasam recipe</i></b>	A traditional South Indian drink. A sour soup-like dish rasam means "the essential products of digestion." Rasam's use of tamarind as its base has made it.	Effective appetizer and digestive drink. Treat <b>colds and coughs</b> . Aid digestion, speed up recovery, <b>support weight loss</b> , manage diabetes, and address nutritional deficiencies. Encourage lactation in new mothers. Manage burns and reduce illness.
3.	<b>Horse gram masiyal</b>	Unique and flavourful recipe from the Malayali tribes. It not only with dosa but also as a tasty side dish for rice. Healthy recipe that is rich in protein. They have antioxidant properties because they contain minerals like magnesium, potassium, iron, copper, calcium, zinc, and manganese. A rich source of dietary fiber.	Copper and iron are important for forming red blood cells and for cell metabolism. Zinc is a key helper for various enzymes, while potassium is essential for cells and the body. Aids in regular stool elimination and <b>plays a role in weight loss</b> . Promotes a stronger and more flexible body.
4.	<b>Horse gram paratha</b>	Common dish in areas where Malayali culture is prominent. Have a low glycemic index. Fewer anti-nutritional factors. Rich in protein and Iron. Also contains minerals, vitamins, non-nutritive bioactive compounds, and enzymes.	It has antihyperglycemic properties that help control blood glucose levels. Also reduces carbohydrate absorption. It supports health during pregnancy by boosting blood count.

		It provides carbohydrates, fats, carotenes, nicotinic acid, and several important minerals such as calcium, molybdenum, phosphorus, polyphenols, and flavonoids.	Help manage fever, <b>weight, and cholesterol levels.</b>
5.	<b>Kollu Idli Recipe</b>	A naturally fermented dish. Provides a nutritious breakfast rich in protein and calcium.	<b>Help in weight-loss.</b> Improves its nutritional and protein value. Enhances probiotic activity and supports health.

## RESULTS AND OBSERVATION

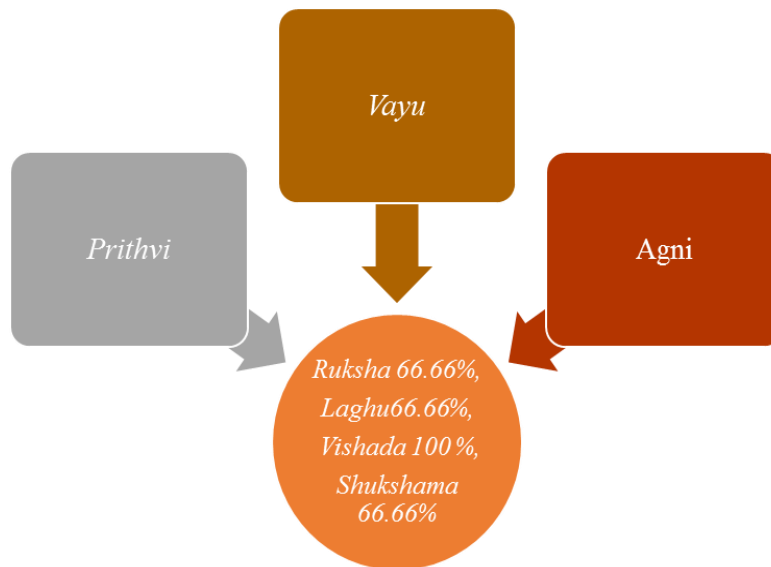
Table No. 04: Showing *Panchmahabhutic* parameter of *Rasa, Vipaka, Guna, & Virya*.<sup>[12]</sup>

S.No.	<i>Rasa / Vipaka / Guna / Virya</i>	<i>Panchmahabhuta included</i>
1.	<i>Kashaya</i>	<i>Vayu + Prithvi</i>
2.	<i>Amla</i>	<i>Prithvi + Agni</i>
3.	<i>Katu</i>	<i>Vayu + Agni</i>
4.	<i>Ushna</i>	<i>Agni + Vayu</i>

Table No. 05: Showing *Gunas* of *Panchmahabhuta* with special reference to *Brihatrayi*.<sup>[13,14,15]</sup>

<i>Panchmahabhuta</i>	<i>Guna</i>		
	<i>Ch. Sa.</i>	<i>Shu. Sa.</i>	<i>As.H</i>
<i>Prithvi</i>	<i>Guru, Khara, Kathina, Manda, Sthira, Vishada, Shandara, Sathola.</i>	<i>Guru, Kathina, Manda, Sthira, Shandara, Sathola.</i>	<i>Guru, Sthira, Sathola.</i>
<i>Agni</i>	<i>Ushna, Tikshana, Sukshama, Laghu, Ruksha, Vishada.</i>	<i>Ushna, Tikshana, Sukshama, Laghu, Ruksha, Vishada, Khara.</i>	<i>Ushna, Tikshana, Sukshama, Ruksha, Vishada.</i>
<i>Vayu</i>	<i>Laghu, Sheeta, Ruksha, Khara, Vishada, Sukshama</i>	<i>Laghu, Khara, Vishada, Sukshama</i>	<i>Laghu, Ruksha, Vishada.</i>

From Table no. 05 we get *Ruksha, Vishada, Shukshama* common *Gunas* with respect to *panchamahabhuta* from which Showing 66.66% *Ruksha*, 66.66% *Laghu*, 100% *Vishada*, 66.66% *Shukshama* *Guna* according to *Charak Samhita* and 66.66% *Laghu*, 66.66% *Shukshama*, 66.66% *Vishada*, 66.66% *Khara* according to *Shushruta Samhita* and 66.66% *Ruksha*, 66.66% *Vishada* according to *Ashtang Hridhyama*.



**Diagram: A Critical Analysis of Rasa- panchaka on the basis of Panchbhutic Sangthan**

## DISCUSSION

On the above, analysis reveals that *Kulattha (Dolichos biflorus Linn.)* demonstrates the predominance of Agni, Vayu, and Prithvi Mahabhutas. The common occurrence of Ruksha, Vishada, Laghu, and Sukshma Gunas supports its *Lekhana* (scraping), *Deepana* (appetite stimulating), *Pachana* (digestive), and *Srotoshodhana* (channel cleansing) properties. These qualities make *Kulattha* particularly useful in *Kapha*-dominant disorders like *kasa-swasa* (respiratory tract allied disorder and bronchitis), *peenasa* (ainusitis), *sthoulya* (includes obesity and metabolic disturbances), and *ashamari* (urinary stone formation).

Ethnobotanical literature further supports the traditional *Ayurvedic* uses of *Kulattha (Dolichos biflorus Linn.)*. Various food preparations such as *Kollu Podi*, *Kollu Rasam*, Horse Gram Masiyal, Horse Gram *Paratha*, and *Kollu Idli* are widely consumed across different regions of India. These preparations are traditionally employed for weight management, respiratory disorders, kidney stones, digestive ailments, diabetes management, and enhancement of general health. The therapeutic indications observed in folk medicine closely resemble the disease indications described in *Ayurvedic* classics, validating the traditional knowledge associated with *Kulattha (Dolichos biflorus Linn.)*.

Nutritionally, is recognized as a highly valuable functional food by making it an excellent plant-based source of energy and body-building nutrients. It is also rich in dietary fibre and contains significant quantities of essential minerals such as iron, calcium, phosphorus, potassium, magnesium, zinc, copper, manganese which is helpful for various enzymes

activity and body cell. The absence of excessive fat content and its low glycaemic index further enhance its suitability as a healthy dietary component for modern lifestyles.

## CONCLUSION

The integration of *Ayurvedic* literature and ethnobotanical evidence establish *Kulattha (Dolichos biflorus Linn.)* as a functional food possessing nutritional as well as therapeutic significance, supporting the *Ayurvedic* principle that *Ahara* itself can serve as an effective means for health promotion and disease prevention. and nutritional composition suggests that *Kulattha (Dolichos biflorus Linn.)* should be recommended as a functional food in daily dietary practices. Regular consumption may contribute to maintaining respiratory health, urinary tract health, digestive function, metabolic balance, cardiovascular wellness, and overall nutritional status.

Therefore, *Kulattha (Dolichos biflorus Linn.)* is not merely a pulse but it is an ideal example of "Food as Medicine" in *Ayurveda* combining nutritional excellence with broad-spectrum therapeutic potential. By regular inclusion in the daily routine aid in the promotion of health and prevention of disease.

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