

Comparative Study of Chaturushna Dravyas: Classical Attributes versus Modern Pharmacological Properties

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Chaturushna is known in Ayurveda for its potent Deepana and Pachana properties. Chaturushna comprises of Pippali (Piper longum), Pippalimoola (root of Piper longum), Chavya (Piper retrofractum) and Chitraka (Plumbago zeylanica). Acharya Charaka states properties as predominantly Katu Rasa, Ushna Veerya, and Kapha-Vata hara. It is mentioned under Deepaneeya Mahakashaya in Charaka Samhita, are primarily indicated in disorders of impaired Agni and Ama accumulation in body. As it is widely documented in all classical Ayurvedic, still a systematic comparison with modern pharmacological findings needs to be studied. This review article will comparatively analyze classical attributes of Chaturushna Drugs and correlate them with relatable pharmacological evidence using classical Ayurvedic texts, peer reviewed research articles. Rasapanchak of drugs will be tabulated and analytically compared with pharmacodynamic and phyto-chemical data.

Keywords: Chaturushna, pharmacological properties, Deepana, Pachana

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Introduction

Ayurveda have classified most drugs based on their therapeutic usage. *Acharya* Priyavrat Sharma has indicated *Mishraka Gana* which represents a good pharmacological classification where therapeutic applicability dominates uniformity of *Rasapanchaka*. [1] Such grouping may indicate early recognition of polyvalent pharmacodynamics in *Dravyaguna*.

Although *Chaturushna* Drugs are placed under *Deepaneeya Mahakashaya* due to uniform *Ushna Veerya* and *Katu Rasa*, their extended therapeutic actions also indicate a *Mishraka* pharmacodynamic pattern.[2]

Agni governs health, and its impairment results in *Ama* formation and disease. Therefore, *Deepana-Pachana* drugs such as *Chaturushna Dravyas*, characterized by strong *Ushna* potency, are therapeutically important.[3] The four drugs commonly included are *Pippali* (*Piper longum*), *Pippalimoola* (root of *Piper longum*), *Chavya* (*Piper retrofractum*), and *Chitraka* (*Plumbago zeylanica*). These drugs have *Katu Rasa*, *Ushna Veerya*, and *Katu Vipaka*, and indicated in *Kapha-Vata* disorders associated with impaired digestion and metabolic disorders.[4]

From a pharmacological point of view, pungent and metabolic stimulants are known to stimulate digestive secretions, enhance circulation, and increase metabolic rate. Modern phyto-chemical investigations reveal the presence of bioactive compounds such as piperine and plumbagin in these drugs, which exhibit digestive stimulant, anti-inflammatory, antimicrobial, and bioavailability-enhancing activities.[5,6]

This article aims to compare and evaluate classical and pharmacological properties of *Chaturushna* Drugs and assess the scientific reason behind *Chaturushna* grouping.

Materials and Methods

Study Design: This is a narrative literature review focusing on analytical comparative study.

Source of Data

Classical Sources:

- *Charaka Samhita*
- *Dravyaguna vigyan* classical books

Modern scientific sources:

- Peer-reviewed pharmacology journals
- Indexed scientific databases such as PubMed Central, Google Scholar, and Scopus
- Ayurveda-specific research journals.

Methodology:

- Extraction of *Rasapanchaka* details
- Compilation of phytoconstituents
- Comparative of drugs in tabular form
- Analytical interpretation.

Table 1: *Rasapanchaka* and Pharmacological Properties

Drugs	Rasa Guna	Veerya Vipaka Karma	Modern Interpretation
Pippali (Piper longum)	Katu Laghu, Tikshna	Ushna Katu Deepana, Rasayana	Enzyme stimulation, thermogenic[7]
Pippalimoola (root of Piper longum)	Katu Laghu	Ushna Katu Amapachana	Appetite stimulant, antimicrobial[8]
Chavya (Piper retrofractum)	Katu Tikshna	Ushna Katu Shoolahara	Carminative, digestive stimulant Improves gut motility[9]
Chitraka (Plumbago zeylanica)	Katu Tikshna	Ushna Katu Deepana, Krimighna	Strong enzyme stimulant, thermogenic anti-amoebic action[10]

Table 2:

Drugs	Action as per Ayurveda	Pharmacological Reason
Pippali (Piper longum)	Deepan and Pachana	Piperine stimulates gastric acid secretion and enhances digestive enzyme activity
Pippalimoola (root of Piper longum)	Deepana and Pachana	It enhances digestive secretions and reduces gut microbial load, Improves gut motility and digestion.
Chavya (Piper retrofractum)	Deepan and Pachana	Relieves abdominal distension and gas, Improves intestinal peristalsis
Chitraka (Plumbago zeylanica)	Strong Deepan and Pachana	Plumbagin markedly increases digestive enzyme secretion, Enhances metabolic processes

From the above two tables, it is clear that *Chaturushna Dravyas* show close correlation with modern pharmacological interpretations.

Ushna Veerya is related to the thermogenic action and increased metabolic rate, while *Tikshna Guna* reflects irritant and stimulant properties. *Deepana* activity can be interpreted as stimulation of digestive enzyme secretion, and *Pachana* denotes enhancement of metabolism and gastrointestinal motility. *Katu Vipaka* signifies catabolic processes and metabolic activation in the body.

Discussion

The present study defines to correlate the classical Ayurvedic concept of *Deepana–Pachana Karma* of *Chaturushna Dravyas* with contemporary pharmacological understanding. Ayurveda says that *Agni* is the primary regulator of digestion and metabolism, and impairment of *Agni* results in the formation of *Ama*, which plays a main role in the pathogenesis of various systemic disorders. Drugs having *Deepana* and *Pachana* properties are therefore considered therapeutically important in restoring metabolic balance.

Chaturushna Dravyas are characterized by uniform *Rasapanchaka* properties, predominantly *Katu Rasa*, *Ushna Veerya*, *Tikshna Guna*, and *Katu Vipaka*. From a modern pharmacological perspective, pungent principles present in these drugs have stimulatory effects on the gastrointestinal tract. Experimental studies demonstrate that bioactive compounds such as piperine and plumbagin stimulate gastric acid secretion, enhance digestive enzyme activity, and increase intestinal motility. These actions provide a scientific explanation for the *Deepana Karma* described in classical texts, where *Agni* is stimulated, appetite is enhanced, and digestive capacity is improved.

Pachana Karma refers to the digestion and elimination of *Ama*. From the pharma point of view, this action can be correlated with increased metabolic turnover, improved gut motility, and antimicrobial activity within the gastrointestinal tract. The carminative and antimicrobial properties of *Chaturushna Dravyas* helps in the breakdown of undigested food and support normalization of gut flora.

Ushna Veerya, again a common feature of *Chaturushna Dravyas*, relates very closely with thermogenic and metabolic-enhancing effects described in pharmacological properties.

Similar to this, *Tikshna Guna* signifies penetrating and sharp action, which can be correlated with irritant and stimulant effects that activate sensory receptors and mechanisms of the gastrointestinal system.

Chaturushna Dravyas Although share uniformity in *Deepana* and *Pachana karma*, each drug also exhibits additional secondary actions such as *Rasayana*, *Shoolahara*, *Krimighna*, or *Lekhana* properties. Such an arrangement highlights the scientific reason of Ayurvedic classification, where the drugs are grouped based on dominant action rather than rigid uniformity of all properties.

The scientific reason behind the grouping of *Chaturushna Dravyas* is in their shared pharmacodynamic function such as enhancement of digestive and metabolic functions which is achieved through similar mechanisms such as enzyme stimulation, thermogenesis, and improved gastrointestinal motility. Modern pharmacology recognizes this concept as multi-target drug action, wherein a group of compounds exerts convergent therapeutic effects through overlapping biochemical pathways.

Thus, the classical grouping of *Chaturushna Dravyas* represents a rational and evidence-based pharmacological classification. The correlation between *Rasapanchaka* and modern pharmacodynamic principles proves the relevance of Ayurvedic drug grouping. This integrative understanding not only strengthens the scientific foundation of *Deepana–Pachana* therapy but also opens routes for further experimental and clinical exploration of these drugs in metabolic and digestive disorders.

Conclusion

The *Chaturushna* group represents a coherent, mechanism-driven Ayurvedic drug classification, whereas the classical *Rasapanchaka* principles converge with modern pharmacological pathways to produce predictable and therapeutically relevant *Deepana–Pachana* effects.

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