

A COMPREHENSIVE ANALYSIS OF THE PHARMACODYNAMICS AND THERAPEUTIC APPLICATIONS OF PANCHAKOLA CHURNA

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ABSTRACT

Background-Ayurveda is one of the oldest and most systematically organized medical traditions, rooted deeply in philosophical thought. It embodies a rich heritage of scientific knowledge related to healing practices. Numerous traditional formulations have been effectively employed by practitioners to address a diverse array of health conditions. However, the detailed understanding of how these formulations work is often limited. Panchakola Churna is one such classical multi-herb preparation that is commonly prescribed in everyday Ayurvedic practice. Understanding the pharmacodynamics of Ayurvedic drugs is essential for scientifically validating their traditional uses. It helps explain how these formulations act on the body, supports dosage standardization, and ensures safety by predicting possible side effects. This knowledge also aids in optimizing formulations, guiding evidence-based drug development, and meeting global regulatory standards. Especially for complex preparations like herb metallic compounds, pharmacodynamic insights are crucial for integrating Ayurveda into modern healthcare. Panchakola Churna is a traditional Ayurvedic polyherbal formulation recognized for its effectiveness in treating digestive disorders, particularly indigestion and acidity. Composed of five key herbs—Pippali, Pippalimool, Chavya, Chitraka and Sunthi. this remedy utilizes the synergistic properties of each ingredient to enhance digestive health. This review examines the pharmacodynamic actions, properties and therapeutic uses of Panchakola Churna, integrating traditional knowledge with contemporary research.

KEYWORDS: Ayurveda, Panchakolaa Churna, Pharmacodynamic Actions, Traditional Formulation.

INTRODUCTION

Ayurveda, the ancient healing system of India, goes beyond merely treating illnesses—it emphasizes the preservation of health through balanced lifestyle habits. Its comprehensive, holistic philosophy aims not only to manage diseases but also to support overall well-being and longevity. Ayurvedic practitioners are trained to apply a range of therapeutic strategies tailored to the individual's needs to restore and maintain health. A review published in PubMed indicates that around 80% of individuals in developing nations depend primarily on traditional healing methods, including herbal treatments, for their basic healthcare needs.^[1]

Rasashastra and Bhaishajya kalpana is a specialized discipline within Ayurveda, the traditional medical system of India, that focuses on the preparation of medicinal formulations using metals, minerals, and medicinal herbs. Bhaishajya Kalpana, the pharmaceutical branch of Ayurveda, deals with the preparation, processing, and standardization of various formulations such as Panchavidha Kashaya Kalpana (Swarasa, Kalka, Kwatha, Hima, and Phanta), Churna, Vati, and Asava-Arishta. It plays a crucial role in ensuring the safety, efficacy, and stability of Ayurvedic medicines used for managing chronic and complex disorders including neurological, autoimmune, and metabolic diseases. Based on the classical principles of Ayurvedic pharmaceutics, Bhaishajya Kalpana emphasizes specific processing and preservation methods that enhance the therapeutic potency, bioavailability, and shelf life of formulations, thus integrating traditional Ayurvedic wisdom with modern pharmaceutical understanding.

Churna Kalpana, one of the simplest and most fundamental dosage forms in Ayurvedic pharmaceutics, involves preparing fine powders of dried drugs for easy administration. It holds great importance due to its simplicity of preparation, rapid absorption, easy digestion, adjustable dosage, and suitability for all ages. Churnas act quickly owing to their fine particle size and can be combined in various formulations for diverse therapeutic uses. They serve as the base for many secondary preparations such as Vati, Guggulu, and Avaleha, and are economical, stable, and convenient to store and use. In modern times, Churna Kalpana aligns with powdered herbal formulations and nutraceuticals, making it a bridge between traditional wisdom and modern pharmaceutical science.

Churna Kalpana is one of the pharmaceutical dosage forms in Ayurveda that is studied through both theoretical concepts and practical application. Among the many formulations in this category, Panchakola Churna stands out as a prominent example. This formulation is elaborately described by Acharya Sharangadhara in the Churna Kalpana Adhyaya of the Sharangadhara Samhita, a classical and authoritative text in Ayurvedic pharmaceutics.

Panchakola Churna is a classical Ayurvedic formulation known for its significant therapeutic properties. The term 'Pancha' denotes the five herbal ingredients used in its composition, while 'Kol' signifies its standard dosage. This formulation is primarily used to support digestive health and alleviate gastrointestinal disturbances. It is particularly effective in managing conditions such as Pleeha, Gulma, and Shoola. According to Ayurvedic principles, the therapeutic activity of any formulation is influenced by its Rasa, Guna, Vipaka, and Prabhava. This review article focuses on examining the pharmacodynamics of Panchakola Churna, along with its mechanism of action and therapeutic applications.

AIM AND OBJECTIVES

Despite Ayurveda's rich formulations, its scientific interpretation remains complex, highlighting the need to understand core principles. This review analyzes Panchakola Churna's therapeutic actions, Rasapanchaka, Karma, medicinal

properties, and clinical relevance to the Phalashruti of related Vyadhis

AIM

To evaluate the therapeutic potential of Panchakola Churna with reference to the pharmacodynamics and Rogaghata of its individual ingredients.

OBJECTIVES

The primary objective of this article is to review the therapeutic actions of Panchakola Churna by evaluating the individual functions of its constituent ingredients and their pharmacodynamic properties. Along with to explore the synergistic interactions among these components, providing insights into the formulation's traditional applications.

MATERIALS AND METHOD

A wide range of classical Ayurvedic literature and recent scholarly works have been examined. Information from both traditional texts and digital sources has been systematically compiled and critically assessed to enable an in-depth and informed discussion.

INGREDIENTS OF PANCHAKOLA CHURNA

पिप्पलीचव्यविश्वाह्वापिप्पलीमूलचित्रकैः ॥ 13 ॥

पञ्चकोलमिति ख्यातं रुच्यं पाचनदीपनम् ।

आनाहप्लीहगुल्मघ्नं शूलश्लेष्मोदरापहम् ॥ 14 ॥ शा. सं. मध्यम खंड 6 /13.^[2]

METHOD OF PREPARATION OF PANCHAKOLA CHURNA

As the name suggests, this Kalpa is in the form of a Churna. Therefore, its preparation is carried out following the Churna preparation method described by Acharya Sharangadhara, as outlined below:

अत्यन्तशुष्कं यदद्रव्यं सुपिष्टं वस्त्रगालितम् ॥

ततस्याच्युर्नरजः क्षौद्रस्तन्मात्राकर्षसम्मिता ॥ शा. सं. म. ६/१⁽³⁾

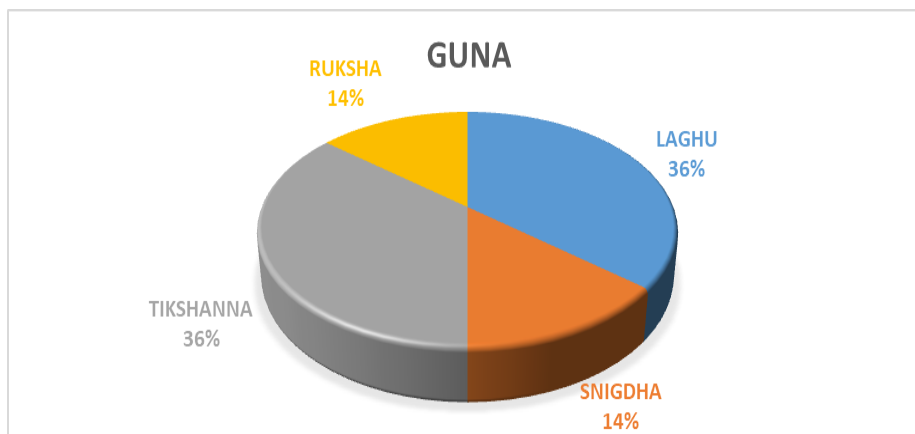
1. All physical impurities were thoroughly eliminated from Pippali, Pippalimool, Chavya, Chitraka, and Nagar.
2. The cleaned ingredients were then weighed precisely using a weighing scale.
3. Each herb was ground into a fine powder, followed by proper sifting through sieves to obtain a uniform texture.
4. The measured amounts of each powdered herb were carefully combined and mixed well to achieve a consistent and even blend.

Table 1: Ingredients Rasapanchak & Matra of Panchakola Churna.

Sr. No.	Ingredients	Botanical Name	Family	Rasa (taste)	Virya (potency)	Vipaka	Guna (attribute)	Doshaghanata	Part Taken
1	Pippali ^[4]	Piper longum Linn.	Piperaceae	Katu	Anushna Sheeta	Madhur	Laghu, Snigdha Tikshana	Kapha Vat Shamak	1
2	Pippali Mool ^[4]	Piperlongum Linn. Root	Piperaceae	Katu	Anushna Sheeta	Madhur	Laghu, Snigdha Tikshana	Kapha Vat Shamak	1
3	Chavya ^[4]	Piperchaba Huter	Piperaceae	Katu	Anushna Sheeta	Madhur	Laghu, Tikshana	Kapha Shamaka Vat	1
4	Sunthi ^[5]	Zingiber officinale	Zingiberaceae	Katu, Tikta	Ushna	Katu	Ruksha, Laghu, Tikshana	Kapha Shamak Vat	1
5	Chitraka ^[6]	Plumbago zeylanica	Plumbaginaceae	Katu	Ushana	Katu	Ruksha, Laghu, Tikshana	Kapha Shamak Vat	1

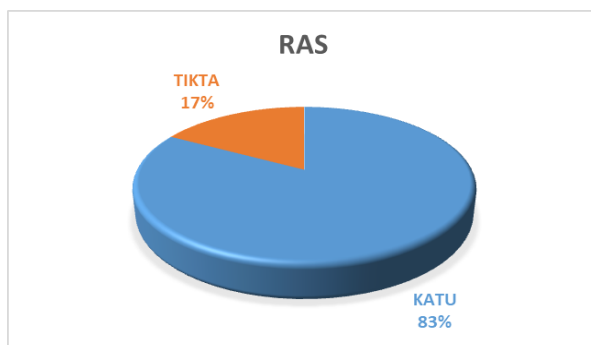
Table no 2: Therapeutic actions of Panchakola Churna.

Sr. No.	Ingredients	Ayurvedic Therapeutic actions (Karma)	Modern Therapeutic actions
1	Pippali and Chavya Pippali ^[4]	Krimighna, Rasayan, Jwaraghna, Hrudy, Deepan, Pachana, Shoolhara, Raktavardhaka, Kusthaghna, Kashar, Gulmaghna, Aanahghna	Anticancer, Analgesic, Anti-inflammatory, Hepatoprotective, Cardioprotective, Immunomodulatory. ^[7]
2	Pippalimool ^[4]	Deepan, Pachan, Pleehaghna, Gulmaghna, Laghu, Bhedi, Kaphavata Udaraprasham, Anah, Krimighna, Shwasaghna, Kshayanashak	Antibacterial, Antimicrobial and Anti-amoebic, Antidiabetic, Antiplatelet, Anti-asthmatic, Anthelmintic, Anti-snake venom, Antiulcer. ^[8]
3	Chitraka ^[6]	Deepan, Pachan, Arshoghna, Udarshoolshamak, Pleehaghna, Jwaraghna, Krimighna, Kaphaghna, Shoolaghna,	Antimicrobial, Anti-inflammatory, Antioxidant, Hair growth promoter and regulation, Antidiabetic, Antiulcer, Antiobesity, Antihyperlipidemic, Hepatoprotective, Wound healing, Nephroprotective, Antifertility, Anticancer and cytotoxic, Anthelmintic. ^[9]
4	Sunthi ^[5]	Shothahara, Shoolaprashaman, Hrudy, Vedanasthapaka, Deepana, Pachana, Rochan, Arshoghna, Jwaraghna,	Bronchodilator, Antimicrobial Action, Anti-Inflammatory, Antimicrobial Action, Anti-Oxidative Effect. ^[10]

ANALYSIS AS PER GUNA

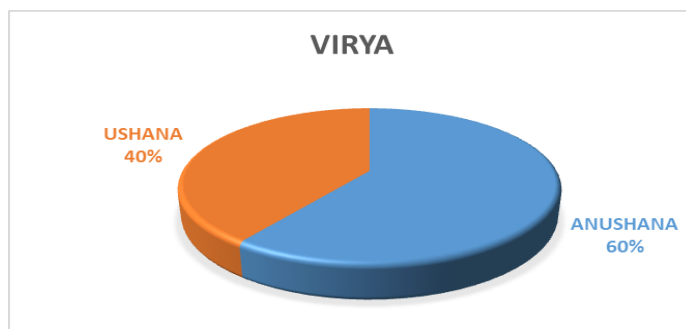
As per Table 1, the composition is predominantly characterized by Laghu and Tikshana Gunas, with Tikshana Guna making up 36% of the total, followed by Ruksha and Snigdha Gunas at 14% each. Only these four Gunas are present in this formulation.

Laghu Guna is Vatakara (increases Vata), Kaphanashaka (destroys Kapha), Utsahavardhaka (energizing), Vranaropak (wound healing), Laghupaki (light digestion), and Sphurtivardhaka (enhances perception). Ruksha Guna possesses Kaphahara (reduces Kapha), Vatakara (increases Vata), and Rukshya (dry) qualities. Tikshana Guna is Shodhaka (cleansing), Lekhana (scraping), and Dahapakastravakar (causes burning sensation). Snigdha Guna exhibits Vatahara (reduces Vata) and Kaphahara properties and helps to increase Bala (strength) and Varna (complexion).

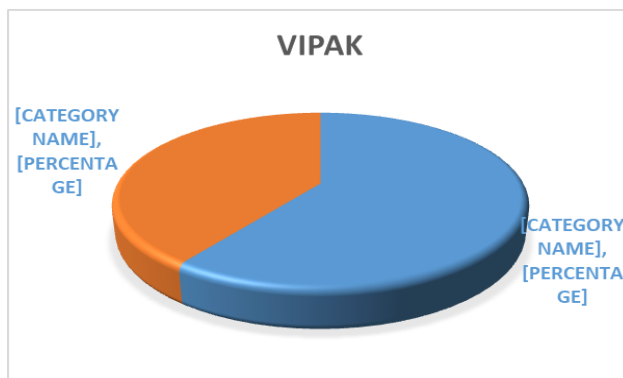
ANALYSIS AS PER RAS

According to Table 1, Katu Rasa constitutes the majority of Panchakola Churna, making up 83% of its total composition. Katu Rasa is characterized by its Ruksha (dry), Ushna (hot), and Laghu (light) qualities. It possesses Deepana (appetizer), Pachana (digestive), Lekhana (scraping), Krimighna (anti-parasitic), and Grahi (absorbent) properties, and also exhibits Kaphahara (Kapha-reducing) effects.

Tikta Rasa makes up the remaining 17% of the composition. Tikta Rasa is Ruksha (dry), Laghu (light), and Shita (cool) in nature. It is Vishaghna (detoxifying) and Jwaraghna (fever-reducing), and helps in alleviating Kapha and Pitta doshas.

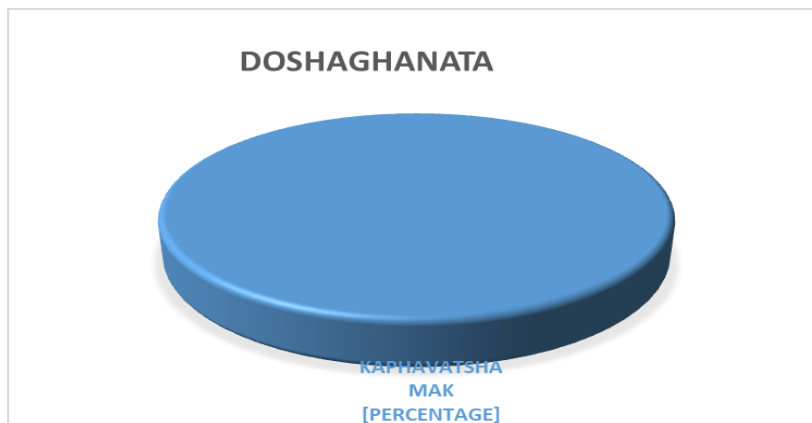
ANALYSIS AS PER VIRYA

As per Table 1, in Panchakola Churna, Anushna Virya constitutes 60% of the formulation, while Ushna Virya makes up the remaining 40%. Ushna Virya possesses properties such as Pachana (digestive), Swedana (induces sweating), Laghu (light), Vilayana (liquefying), Vamana (emetic), and Virechana (purgative).

ANALYSIS AS PER VIPAK

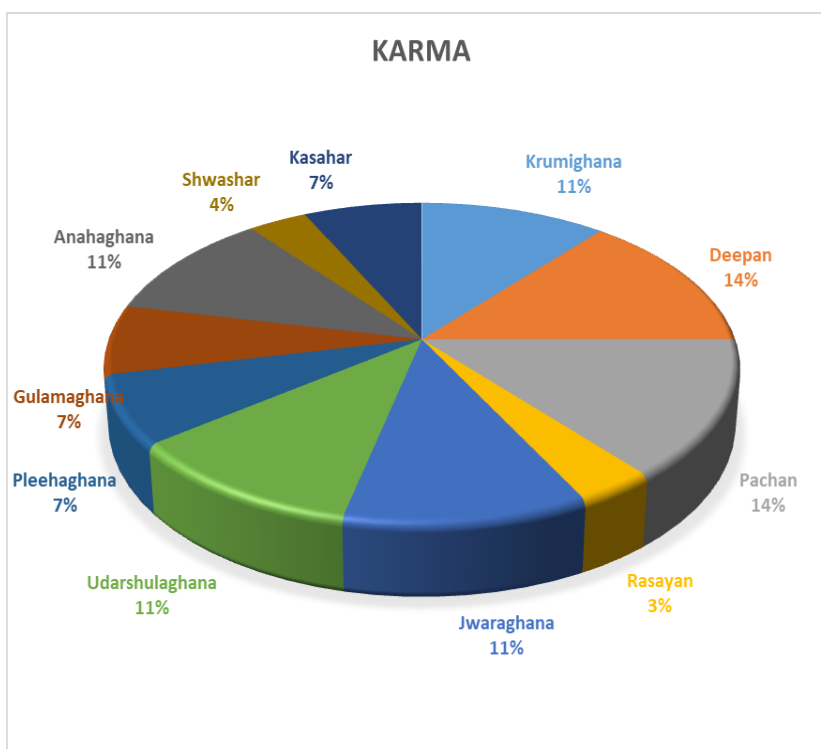
As per Table 1, Madhura Vipaka constitutes 60% of the formulation, while Katu Vipaka makes up 40%. Madhura Vipaka is characterized by Snigdha (unctuous) and Guru (heavy) Gunas, and is Kaphavardhaka (increases Kapha) in nature. In contrast, Katu Vipaka is Ruksha (dry) and Laghu (light), exhibiting properties that are opposite to Madhura Vipaka. It helps balance the doshas and supports the alleviation of various Vyadhis

ANALYSIS AS PER DOSHAGHANATA



As per Table 1, Panchakola Churna is 100% Kaphavata Shamak in nature, making it highly effective in the management of **Kasa** (cough), **Shwasa** (breathlessness/asthma), and **Shoola** (colic pain).

ANALYSIS AS PER KARMA



As per table no 2 Pachakol Churna consist of Deepan Pachan karma each by 14% followed by Krumighaa, Aanahghna, Udarshulaghana , Jwaraghna Karma by 11% Pleehaghna, Gulmaghna and Kasaghna is 7% and Rasayana and Shwasahara is 3.5 %

DISCUSSION

Ayurveda, the ancient and most accurate science of life, has faced various challenges in its development over time. However, today there is a growing interest in Ayurveda for its timeless principles, emphasizing the need to demonstrate their relevance in the modern age. Therefore, it is important to revisit traditional remedies, with Panchakola Churna being one such remedy that warrants further exploration. This is why it has been selected for review. Panchakola Churna is made up of five herbal ingredients, as previously mentioned. According to Ayurvedic literature, the therapeutic indications (Rogadhikar) for Panchakola Churna include Ruchikara, Deepan, Pachan, Aanahghna, Pleeahghna, Shoolaghna, Udaroganashaka, and Kaphavikarnashaka.

Here now will discuss how the ingredients of Panchakola Churna help in breaking the samprapti of the aforementioned disease, through their specific Rasa, Guna, Veerya, Vipaka, Karma and Doshaghanata properties

DEEPAN AND PACHAN

Panchakola Churna promotes deepana (enhancing appetite) and pachana (supporting digestion) due to the presence of herbs with katu rasa (pungent taste), ushna virya (hot potency), and laghu-tikshna guna (light and penetrating qualities). These attributes help stimulate the digestive fire (Jatharagni), leading to improved appetite and better secretion of digestive enzymes. Additionally, the formulation assists in breaking down ama (undigested or toxic material) and supports its elimination from the body. By regulating the functions of kapha and vata doshas, Panchakola Churna restores balance in the gastrointestinal tract. It is particularly effective in managing conditions such as weak digestion (Mandagni), loss of appetite (aruchi), and indigestion (Ajirna), making it a useful remedy for various digestive disturbances. The key ingredients of this formulation synergistically support Agni, facilitating Samprapti Vighatan for overall disease

RUCHIKAR

As Ama is root cause for Aruchi once ama is digested and the doshas are balanced—particularly Kapha, which is often responsible for heaviness and loss of taste—natural desire for food is gradually restored. Thus, Panchakola Churna promotes clarity of taste, improves salivary response, and enhances overall Ruch in food.

ANAHA

Panchakola Churna is highly effective in managing Anaha, a condition characterized by abdominal bloating, fullness, or obstructed bowel movements. The formulation contains herbs with Ushna Virya (hot potency), Tikshna (sharp), Laghu (light), and Ruksha (dry) Gunas, which help in removing srotorodha (blockage in body channels) and promoting the downward movement of Vata. Its Deepana and Pachana actions stimulate the digestive fire (Agni), aiding in the digestion of aama (undigested toxins), which is a common cause of Anaha. Additionally, by reducing Kapha and regulating Apana Vata, Panchakola Churna supports proper intestinal motility, reduces gas accumulation, and relieves the sense of abdominal heaviness and distension. Hence, it acts as both a digestive and mild laxative, bringing symptomatic relief in Anaha

PLEEHAGHANA

Panchakola Churna is considered effective in Pleeharoga (disorders related to the spleen) due to its Pleeahghna properties. The formulation contains herbs with Ushna Virya (hot potency), Tikshna (sharp), and Lekhana (scraping) qualities, which help reduce splenic enlargement by pacifying aggravated Kapha and Vata Doshas — the main

contributors to Pleeha-Vridhhi (splenomegaly). Its Deepana and Pachana actions aid in improving digestion and metabolism, thereby preventing the formation of Ama (undigested metabolic toxins) that can accumulate in the spleen and liver region. By clearing the blocked channels (Srotas) and promoting better circulation and metabolic activity, Panchakola Churna helps reduce the size of the spleen and alleviates associated symptoms like heaviness, discomfort in the left upper abdomen, loss of appetite, and indigestion.

GULMAGHANA

Panchakola Churna acts as Gulmaghna by balancing aggravated Kapha and Vata Doshas, which are primarily responsible for the formation of Gulma (abdominal masses). Its Ushna Virya (hot potency) and Tikshna Guna (sharp quality) help break down and dissolve these abnormal masses. Additionally, the Deepana and Pachana properties stimulate digestive fire, improving metabolism and clearing ama (toxins) that contribute to Gulma formation. This combined action helps reduce swelling, relieve obstruction, and restore normal abdominal function.

SHULAGHANA

Panchakola Churna acts as Shoolaghna by alleviating pain (Shula) primarily caused by the aggravation of Vata and Kapha doshas. Its Ushna Virya (hot potency) and Tikshna Guna (sharp quality) help to pacify Vata, which is often responsible for pain and spasms. Additionally, its Deepana and Pachana properties improve digestion and reduce ama (toxins), which can contribute to inflammatory pain. The combined effect helps to relieve discomfort, reduce inflammation, and restore balance, thus effectively reducing pain symptoms.

KAPHAGHANA

Panchakola Churna acts as Kaphahara by reducing excess Kapha Dosha in the body. Its Ushna Virya (hot potency) and Ruksha Guna (dry quality) help to dry up and liquefy the thick mucus and congestion caused by aggravated Kapha. The Tikshna (sharp) and Laghu (light) qualities of the herbs promote metabolism and stimulate digestive fire, which further aids in breaking down Kapha-related toxins (ama). This combination helps relieve symptoms such as heaviness, lethargy, excessive phlegm, and congestion, restoring balance to the body.

CONCLUSION

The careful choice of dravyas, guided by Acharya Yukti, remains highly applicable and valuable even in today's time also. Each ingredient offers a distinctive blend of phytochemicals and healing properties aimed at restoring digestive harmony and easing gastrointestinal discomfort. Traditionally, these herbs have been valued for their abilities to stimulate digestion, reduce gas, combat inflammation, and protect the stomach lining. The combined effects of these elements in Panchakola Churna deliver a comprehensive approach to common digestive problems such as indigestion, bloating, gas, and acid reflux. While centuries of traditional use and clinical observations highlight its benefits, contemporary studies are now beginning to clarify the underlying pharmacological actions and therapeutic potential. Overall, Panchakola Churna stands out as an effective natural treatment for digestive disturbances, integrating ancient healing knowledge with modern scientific validation.

REFERENCES

1. Farnsworth NR, Akerele O, Bingel AS, Soejarto DD, Guo Z. Medicinal plants in therapy. Bull World Health Organ, 1985; 63(6): 965–81.
2. Tripathi B. Sharangdhar Samhita, Varanasi: Chaukhamba Surbharti Prakashan; Madhyamkhanda, Adhyaya 6, Churna kalpana, Shloka, 2013; 13:117.
3. Tripathi B. Sharangdhar Samhita, Varanasi: Chaukhamba Surbharti Prakashan; Madhyamkhanda, Adhyaya 6, Churna kalpana, Shloka, 2013; 1:116.
4. Acharya Privat Sharma, Dravyaguna vidnyan, part two Chaukhamba prakashan, edition, 2012; 275
5. Acharya Privat Sharma, Dravyaguna vidnyan, part two Chaukhamba prakashan, edition, 2012; 332
6. Acharya Privat Sharma, Dravyaguna vidnyan, part two Chaukhamba prakashan, edition, 2012; 359
7. Kumar, Suresh, et al. “Overview for Various Aspects of the Health Benefits of Piper Longum Linn. Fruit.” Journal of Acupuncture and Meridian Studies, June 2011; 4(2): 134–140, www.sciencedirect.com/science/article/pii/S2005290111600204?Via%3Dihub, [https://doi.org/10.1016/s2005-2901\(11\)60020-4](https://doi.org/10.1016/s2005-2901(11)60020-4).
8. Grover M. Piper longum (Pippalimool): a systematic review on the traditional and pharmacological properties of the plant. World J Pharm Med Res., 2021; 7(8): 281–289.
9. Shukla, B., Saxena, S., Usmani, S. et al. Phytochemistry and pharmacological studies of Plumbago zeylanica L.: a medicinal plant review. Clin Phytosci, 2021; 7(34). <https://doi.org/10.1186/s40816-021-00271-7>
10. . Ekka Deepak, Dubey Swati, Khichariya S.D, Dhruv D.S, Parhate S.M. Antioxidant and Anti-Inflammatory Effect of Sunthi in Pranavaha Srotas. AYUSHDHARA, 2016; 4(1): 1056-1059.