

Scientific Investigation of Avipattikar Churna: Traditional Remedy for Hyperacidity Relief

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Abstract—Hyperacidity, known as Amlapitta in Ayurveda, is a prevalent gastrointestinal disorder resulting from excessive gastric acid secretion. It manifests through symptoms such as heartburn, nausea, bloating, and abdominal discomfort. Although modern medications like antacids and proton pump inhibitors provide temporary relief, they often cause adverse effects and relapse after discontinuation. Ayurveda offers safe and holistic alternatives through herbal formulations that promote digestive balance. Among these, Avipattikar Churna stands out as one of the most effective traditional remedies for hyperacidity. It is a classical polyherbal formulation comprising Amalaki (*Emblca officinalis*), Haritaki (*Terminalia chebula*), Bibhitaki (*Terminalia bellirica*), Pippali (*Piper longum*), and Sunthi (*Zingiber officinale*), along with other supportive herbs. These ingredients act synergistically to neutralize excess gastric acid, enhance mucosal defense, and stimulate digestion. Pharmacological studies reveal that the formulation exhibits significant antioxidant, anti-inflammatory, and gastroprotective activities. Thus, Avipattikar Churna represents a scientifically validated, safe, and effective herbal alternative for the management of hyperacidity.

Index Terms—Avipattikar Churna, Hyperacidity.

I. INTRODUCTION

Hyperacidity, also referred to as acid peptic disorder, is one of the most prevalent gastrointestinal ailments affecting populations worldwide. It primarily arises due to excessive gastric acid secretion, which disrupts the delicate equilibrium between the protective and aggressive factors of the gastric mucosa. Clinically, it manifests through symptoms such as epigastric burning, nausea, regurgitation, sour belching, and postprandial discomfort. The growing incidence of hyperacidity has been strongly linked to modern lifestyle patterns including irregular eating habits, high

consumption of spicy and processed foods, emotional stress, and reduced physical activity. These factors not only enhance gastric acid production but also impair digestion and weaken mucosal defense, resulting in recurrent episodes of gastritis and acid reflux. In modern medicine, hyperacidity is managed through proton pump inhibitors (PPIs), H₂-receptor antagonists, and antacids, which provide prompt symptomatic relief. However, prolonged or indiscriminate use of these synthetic agents is often associated with adverse effects such as hypochlorhydria, malabsorption of micronutrients, gut flora imbalance, and rebound acid hypersecretion upon discontinuation. Moreover, these drugs largely target the symptoms rather than addressing the underlying metabolic imbalance responsible for the disorder. This has created an increasing global demand for safe, natural, and holistic remedies capable of restoring digestive equilibrium and offering sustainable relief without side effects. From an Ayurvedic perspective, hyperacidity correlates with Amlapitta, a disorder caused by the vitiation of Pitta dosha and impairment of Agni (digestive fire). Ayurveda emphasizes the maintenance of doshic balance Vata, Pitta, and Kapha and highlights proper digestion as a foundation of health. Excessive consumption of hot, sour, and oily foods, along with stress and irregular routines, aggravates Pitta, leading to overproduction of acidic secretions. The Ayurvedic therapeutic approach focuses on pacifying Pitta, enhancing digestion, detoxifying the gastrointestinal tract, and strengthening mucosal protection through the use of specific herbal formulations and dietary regulation. One of the most renowned Ayurvedic formulations for hyperacidity is Avipattikar Churna, a classical polyherbal powder described in authoritative texts such as Bhaishajya Ratnavali and Charaka

Samhita. Traditionally prescribed for Amlapitta, gastritis, and dyspepsia, this formulation comprises a synergistic blend of herbs that balance Pitta dosha and promote digestive harmony. Among its major constituents Amalaki (*Emblica officinalis*), Haritaki (*Terminalia chebula*), Bibhitaki (*Terminalia bellirica*), Pippali (*Piper longum*), and Sunthi (*Zingiber officinale*) each contributes distinct pharmacological benefits. Amalaki provides antioxidant and mucosal-protective action through its rich vitamin C and polyphenol content; Haritaki and Bibhitaki act as mild laxatives and detoxifiers; Pippali enhances bioavailability and digestive enzyme secretion; while Sunthi serves as a potent carminative and antiemetic that relieves bloating and gastric irritation. Pharmacologically, Avipattikar Churna exhibits a broad spectrum of activities including antioxidant, anti-inflammatory, mucoprotective, and carminative effects. The presence of phenolic compounds and flavonoids aids in scavenging free radicals and reducing oxidative stress one of the key contributors to mucosal injury. The formulation also promotes mucus secretion, strengthens the gastric lining, and improves gastrointestinal motility, thereby ensuring both curative and preventive benefits. As a polyherbal formulation, Avipattikar Churna demonstrates synergistic action, wherein the combined therapeutic potential of its components exceeds the sum of their individual effects. This multifaceted approach allows simultaneous targeting of acid neutralization, mucosal healing, digestive stimulation, and oxidative protection, ensuring comprehensive management of hyperacidity. Recent pharmacological studies have substantiated these traditional claims by showing that Avipattikar Churna reduces free acidity, enhances gastric mucosal defense, and regulates enzymatic activity in experimental ulcer models. The integration of Ayurvedic wisdom with modern pharmacological evaluation is essential to establish scientific credibility and promote wider acceptance of traditional remedies. Evaluating Avipattikar Churna through evidence-based methodologies not only validates its therapeutic efficacy but also supports its inclusion in contemporary healthcare as a safe, effective, and natural alternative to synthetic antacids and proton pump inhibitors. Therefore, this review aims to explore the scientific foundation, phytochemical composition, pharmacological mechanisms, and

therapeutic potential of Avipattikar Churna in the management of hyperacidity, with emphasis on its gastroprotective, antioxidant, and synergistic properties.

II. COMPOSITION AND ROLE OF INGREDIENTS IN AVIPATTIKAR CHURNA

Avipattikar Churna is a classical Ayurvedic formulation traditionally prescribed for Amlapitta (hyperacidity) and related digestive disturbances. It is a polyherbal blend, and its therapeutic efficacy arises from the synergistic action of its plant-based ingredients. Among its numerous components, five herbs Amalaki (*Emblica officinalis*), Haritaki (*Terminalia chebula*), Bibhitaki (*Terminalia bellirica*), Pippali (*Piper longum*), and Sunthi (*Zingiber officinale*) form the core of its pharmacological activity. These herbs collectively contribute antioxidant, anti-inflammatory, carminative, and mucoprotective properties that help normalize gastric acid secretion and promote digestive health.

1 Amalaki (*Emblica officinalis*):



Fig: 1-Amalaki (*Emblica officinalis*)

CommonName: Indian Gooseberry

Family:

Phyllanthaceae

Amalaki is one of the most revered Rasayana (rejuvenating) herbs in Ayurveda and is the principal Pitta-pacifying ingredient in Avipattikar Churna. It is rich in ascorbic acid (vitamin C), tannins, and polyphenolic compounds such as gallic acid, ellagic acid, and emblicanin A & B, which exhibit strong antioxidant potential. These constituents protect the gastric mucosa by neutralising free radicals and reducing oxidative stress one of the key factors involved in hyperacidity and ulcer formation. Pharmacologically, Amalaki exhibits antiulcerogenic, anti-inflammatory, and cytoprotective actions. Studies have demonstrated that its extracts decrease gastric

acid secretion and increase mucin production, thereby enhancing the mucosal barrier. In Ayurveda, it is described as Amla Rasa, Sheeta Veerya (cooling in potency), and Madhura Vipaka (sweet post-digestive effect), which together help soothe Pitta dosha and relieve burning sensations in the stomach.

2. Haritaki (Terminalia chebula)



Fig 2-Haritaki (Terminalia chebula)

Common Name: Chebulic Myrobalan Family: Combretaceae

Haritaki is traditionally recognized as a Tridosha-balancing herb, with a specific action in improving digestion and detoxification. Its major active constituents include chebulagic acid, chebulinic acid, gallic acid, and ellagic acid, which contribute to its antioxidant and anti-inflammatory properties. In the context of hyperacidity, Haritaki aids in the removal of accumulated metabolic toxins (Ama), improves gut motility, and prevents constipation an important contributor to gastric distress. Its mild laxative effect helps in regular bowel movements, which indirectly reduces acid reflux and bloating. Experimentally, Haritaki has been shown to exhibit gastroprotective and antioxidant activity by enhancing endogenous antioxidant enzymes and reducing lipid peroxidation in gastric tissues. Ayurvedic texts describe it as Ruksha Guna (dry quality) and Ushna Veerya (mildly warm potency), which balance both Kapha and Pitta doshas.

3. Bibhitaki (Terminalia bellirica)



Fig 3-Bibhitaki (Terminalia bellirica)

Common Name: Belleric Myrobalan Family: Combretaceae

Bibhitaki is known for its Kapha- and Pitta-balancing properties and is widely used to promote respiratory and digestive health. It contains gallic acid, ellagic acid, β -sitosterol, and lignans that exhibit potent antioxidant, antiulcer, and hepatoprotective activities. In Avipattikar Churna, Bibhitaki works synergistically with Haritaki and Amalaki (forming the classical Triphala combination) to regulate digestive processes, reduce gastric irritation, and prevent acid-related damage. It strengthens mucosal defense mechanisms, facilitates bile secretion, and aids in lipid metabolism helpful for patients with indigestion associated with hyperacidity. Pharmacological studies have shown its efficacy in reducing gastric volume, acidity, and ulcer index in animal models.

4. Pippali (Piper longum)



Fig :4- Pippali (Piper longum)

Common Name: Long Pepper Family: Piperaceae

Pippali serves as a Deepana-Pachana (appetizer and digestive stimulant) herb in Avipattikar Churna. Its major bioactive compound, piperine, enhances the bioavailability of other herbal constituents by increasing intestinal absorption and stimulating gastric secretions. Unlike synthetic acids, however, Pippali modulates digestive enzyme activity rather than increasing acid concentration, thereby supporting balanced digestion. It exhibits carminative, anti-inflammatory, hepatoprotective, and antioxidant actions. In Ayurvedic pharmacology, Pippali is described as Ushna Veerya (hot potency) but, in small quantities, it harmonizes Vata and Kapha without aggravating Pitta when combined with cooling herbs like Amalaki. This balanced interaction makes it ideal for formulations intended for acid-related disorders.

5. Sunthi (*Zingiber officinale*)



Fig: 5- Sunthi (*Zingiber officinale*)

Common Name: Dried Ginger **Family:** Zingiberaceae
Sunthi (dry ginger) is a widely recognized digestive tonic in both Ayurvedic and modern medicine. Its major constituents gingerol, shogaol, and zingerone possess potent antiemetic, carminative, anti-inflammatory, and antioxidant effects. In the management of hyperacidity, Sunthi helps reduce nausea, bloating, and gastric irritation by modulating gastrointestinal motility and enhancing mucosal protection. Pharmacological research indicates that Sunthi inhibits gastric acid secretion while stimulating mucus production, thereby preventing acid-induced mucosal damage. In Ayurveda, it is characterized as Ushna Veerya (hot potency) and Katu Rasa (pungent taste), making it a strong digestive and detoxifying herb. When combined with cooling and astringent herbs such as Amalaki and Bibhitaki, its warming potency is balanced, creating a synergistic effect that supports digestion while preventing excess Pitta aggravation.

6. Fennel



Fig :6-Fennel

Botanical Name: *Foeniculum vulgare* **Family:** Apiaceae
Description: Saunf (Fennel) is a highly valued aromatic herb widely used in Ayurveda and modern phytotherapy for its digestive, carminative, and antispasmodic properties. Its major active constituents anethole, fenchone, and estragole contribute to its mild

sweet flavor and therapeutic efficacy. Saunf helps alleviate flatulence, bloating, indigestion, and acidity by relaxing gastrointestinal smooth muscles and enhancing digestive secretions. Pharmacological studies demonstrate that fennel extract reduces gastric acidity and protects the gastric mucosa through its antioxidant and anti-inflammatory mechanisms. In Ayurveda, it is characterized by Madhura (sweet) and Katu (pungent) Rasa, Snigdha (unctuous) and Laghu (light) Guna, and Sheeta Veerya (cool potency), which makes it especially beneficial in pacifying aggravated Pitta dosha. Thus, Saunf serves as a natural coolant and digestive aid that promotes balanced digestion without causing heat or irritation in the stomach.

7. Sugarcane:



Fig: 7-Sugarcane

Botanical Name: *Saccharum officinarum* **Family:** Poaceae

Description: *Saccharum officinarum* (Sugarcane) holds an esteemed position in Ayurveda as a natural coolant, demulcent, and rejuvenative agent. The primary constituent's sucrose, glucose, minerals, and phenolic compounds contribute to its nutritive and soothing effects on the gastric mucosa. In the context of hyperacidity, sugarcane and its derivatives (such as Guda or Sharkara) provide a protective and alkalizing action that neutralizes excess gastric acid and reduces burning sensations. Pharmacological evidence suggests that sugarcane juice exhibits antioxidant, hepatoprotective, and cytoprotective activities, supporting overall gastrointestinal health. In Ayurveda, it is described as having Madhura Rasa (sweet taste), Sheeta Veerya (cool potency), and Guru (heavy) Guna, making it highly effective in soothing aggravated Pitta and promoting tissue nourishment. When combined with digestive stimulants like Sunthi and cooling herbs like Amalaki, it provides a balanced formulation that supports both acid control and digestive function.

Formulation Composition:

The herbal chewable tablet for acidity was formulated using Avipattikar Churna as the main active ingredient, combined with supportive herbs and natural excipients. The formulation details are as follows:

Sr. No.	Ingredients (Botanical Name)	Quantity (mg)	Role/Function
1	Avipattikar Churna (Polyherbal formulation)	500 mg	Main active ingredient for hyperacidity relief
2	Sugarcane Extract (Saccharum officinarum)	263 mg	Natural sweetener and mucosal protector
3	Fennel (Foeniculum vulgare)	100 mg	Flavoring and mild digestive agent
4	Amalaki (Emblica officinalis)	150 mg	Cooling and antioxidant agent
5	Haritaki (Terminalia chebula)	100 mg	Detoxifying and mild laxative
6	Bibhitaki (Terminalia bellirica)	100 mg	Astringent and digestive tonic
7	Pippali (Piper longum)	50 mg	Bioavailability enhancer and carminative
8	Sunthi (Zingiber officinale)	50 mg	Antiemetic and anti-inflammatory
9	Excipients (Natural binders, sweeteners, flavoring bases)	q.s.	To make total tablet weight 1.5 g

Total Tablet Weight: 1.5 g

III. METHOD AND PROCEDURE

This review article was prepared by collecting and analysing data from various scientific and Ayurvedic sources. Research papers, classical Ayurvedic texts, pharmacological studies, and clinical reports related to Avipattikar Churna

The main steps followed were:

1. Literature Collection: Articles and texts discussing the formulation, ingredients, and therapeutic effects of Avipattikar Churna were collected.
2. Data Screening: Only studies focusing on the pharmacological actions, experimental evaluation, and clinical efficacy were selected.
3. Analysis: Collected data were reviewed to identify the formulation's mechanisms of action such as antiulcer, antioxidant, and digestive properties.
4. Compilation: The reviewed information was arranged systematically under different sections such as introduction, composition, and scientific evaluation.

Pharmacological and Scientific Evaluation of Avipattikar Churna

1. Antiulcer Activity

Experimental investigations have shown that Avipattikar Churna significantly reduces gastric ulceration and mucosal lesions induced by stress, alcohol, and NSAIDs in animal models. The formulation effectively lowers free and total acidity while enhancing gastric mucus secretion and elevating

pH levels. These effects are primarily due to the presence of tannins, flavonoids, and phenolic compounds that reinforce the mucosal barrier and prevent acid-induced injury.

- Amalaki and Haritaki protect the gastric mucosa by reducing pepsin activity and promoting mucin production.
- Bibhitaki and Sunthi maintain epithelial integrity and accelerate mucosal healing.

Thus, Avipattikar Churna acts through a dual mechanism neutralizing excess acid and strengthening mucosal defense systems.

2. Antioxidant Properties

Oxidative stress contributes significantly to gastric mucosal injury and hyperacidity. Avipattikar Churna demonstrates strong free radical-scavenging potential owing to bioactive compounds such as gallic acid, ellagic acid, emblicanin A & B, and vitamin C. These constituents inhibit lipid peroxidation, reduce oxidative inflammation, and preserve the integrity of gastric tissues. Studies have also recorded elevated levels of superoxide dismutase (SOD) and catalase in gastric tissues following administration of the formulation, suggesting its ability to enhance endogenous antioxidant defense and prevent cellular damage.

3. Anti-inflammatory and Cytoprotective Effects

Chronic gastric irritation and inflammation are central to recurrent hyperacidity. Avipattikar Churna exhibits significant anti-inflammatory activity by

downregulating the production of pro-inflammatory mediators such as prostaglandins and cytokines.

- Sunthi and Pippali, rich in gingerol and piperine, suppress inflammatory signaling pathways and protect the gastric epithelium.
- Amalaki and Haritaki contribute to cytoprotection by stabilizing cell membranes and reducing histamine release.

Together, these actions promote healing of erosions, enhance mucosal recovery, and alleviate gastric discomfort.

4. Digestive and Carminative Activity

Avipattikar Churna improves digestive efficiency by stimulating the secretion of digestive enzymes and bile, facilitating proper digestion and nutrient absorption.

- Pippali and Sunthi function as classical Deepana–Pachana agents (appetizers and digestive stimulants), alleviating symptoms such as bloating, nausea, and flatulence.
- The formulation also aids in detoxification of the gastrointestinal tract, preventing the accumulation of undigested food (Ama) and maintaining a healthy Pitta balance.

By promoting smoother digestion and intestinal motility, it supports overall gastrointestinal well-being.

5. Hepatoprotective and Detoxifying Effects

The liver plays a pivotal role in digestion and acid regulation. Avipattikar Churna exerts a hepatoprotective effect, enhancing bile flow and protecting hepatic cells from oxidative stress.

- Haritaki and Bibhitaki contribute to liver detoxification and improved metabolism of fats. This hepatic support aids in reducing toxin accumulation, indirectly balancing acid secretion and promoting digestive equilibrium.

6. Clinical Evidence

Preliminary clinical studies and traditional therapeutic observations have confirmed the efficacy of Avipattikar Churna in patients suffering from acid-peptic disorders, gastritis, and sour belching. Administration of 3–5 g twice daily with water or milk has been found to:

- Relieve symptoms like burning sensation, nausea, and abdominal discomfort

- Improve appetite and reduce acid reflux
- Offer better symptom control compared to synthetic antacids

IV. DISCUSSION AND CONCLUSION

The rising incidence of hyperacidity and associated gastric disturbances in today's fast-paced lifestyle underscores the growing demand for safe, long-term therapeutic alternatives. Conventional allopathic interventions such as proton pump inhibitors and antacids may provide immediate symptomatic relief; however, they often fail to address the root causes of the disorder and may result in adverse effects upon prolonged use. Consequently, global research attention has shifted toward traditional systems of medicine like Ayurveda, which focus on restoring digestive equilibrium and metabolic harmony rather than merely suppressing the manifestations of disease. Among these traditional remedies, Avipattikar Churna, a time-honored polyherbal Ayurvedic formulation, has emerged as a promising natural therapy for hyperacidity. The formulation embodies a rational blend of herbs, each contributing distinctive therapeutic properties. Amalaki functions as a potent antioxidant and mucosal protector; Haritaki and Bibhitaki aid in detoxification and bowel regulation; Pippali and Sunthi stimulate digestive enzyme secretion and promote nutrient assimilation; while Fennel (*Foeniculum vulgare*) serves as a natural flavoring and carminative agent, soothing gastric irritation and preventing bloating. Together, these components synergistically regulate gastric acid secretion, reinforce the mucosal barrier, and enhance overall digestive function. Modern pharmacological studies have validated these traditional claims by confirming that Avipattikar Churna possesses antiulcer, anti-inflammatory, antioxidant, and hepatoprotective activities. These effects are primarily attributed to the formulation's rich reservoir of bioactive phytochemicals such as vitamin C, tannins, flavonoids, phenolic acids, and alkaloids, which collectively counteract oxidative stress and acid-induced mucosal damage. Furthermore, scientific findings reveal that the formulation not only mitigates excessive acid secretion but also augments mucus production and strengthens enzymatic defense mechanisms offering both protective and curative benefits to the gastric mucosa. From an Ayurvedic

standpoint, Avipattikar Churna exerts its therapeutic efficacy by pacifying aggravated Pitta dosha and enhancing Agni (digestive fire) without inducing irritation or dryness. It functions according to the principle of Samprapti Vighatana, i.e., interrupting the pathological cascade by neutralizing the causative factors of disease. This dual action helps reestablish physiological balance, thereby preventing the recurrence of hyperacidic episodes and ensuring sustained digestive wellness. Clinically, administration of Avipattikar Churna has been associated with marked improvement in classical symptoms such as heartburn, nausea, sour belching, and epigastric discomfort. The formulation demonstrates excellent tolerance and safety even with prolonged use, reinforcing its suitability as a natural, non-toxic alternative or adjunct therapy for acid-peptic disorders. Despite encouraging empirical and preliminary clinical evidence, further research is warranted to establish its therapeutic consistency. Future investigations should aim to standardize the formulation, identify and quantify its active phytoconstituents, and elucidate its molecular mechanisms through advanced pharmacological and analytical techniques. Avipattikar Churna exemplifies the successful convergence of traditional Ayurvedic knowledge and modern biomedical science. By addressing the underlying pathophysiology of hyperacidity while preserving digestive integrity, it stands as a holistic, evidence-supported gastroprotective formulation suitable for integration into modern healthcare systems.

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