

Scientific Evaluation of Traditional Remedies for Hyperacidity: Focus on Avipattikar Churna

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Abstract—Hyperacidity, or Amlapitta, is a common gastrointestinal disorder characterized by an excess of gastric acid secretion leading to symptoms such as heartburn, nausea, and abdominal discomfort. Modern antacids and proton pump inhibitors provide symptomatic relief but are often associated with side effects and relapse upon discontinuation. Ayurveda, the ancient Indian system of medicine, describes several herbal formulations that restore digestive balance naturally. Among them, Avipattikar Churna is one of the most effective and widely used traditional remedies for hyperacidity. It is a polyherbal formulation composed of herbs such as Amalaki (*Embolia officinalis*), Haritaki (*Terminalia chebula*), Bibhitaki (*Terminalia bellirica*), Pippali (*Piper longum*), and Sunthi (*Zingiber officinale*). These herbs work synergistically to neutralize excess acid, protect the gastric mucosa, and improve digestion. The formulation exhibits antioxidant, anti-inflammatory, and gastroprotective properties, making it a safe and holistic alternative to synthetic antacids. This review aims to evaluate the scientific basis, pharmacological mechanisms, and therapeutic potential of Avipattikar Churna in the management of hyperacidity.

Index Terms—Avipattikar Churna, Hyperacidity, Amlapitta, Ayurveda, Herbal formulation, Gastroprotective, Polyherbal medicine, Antioxidant, Mucosal protection, Acid peptic disorder.

I. INTRODUCTION

Hyperacidity, also known as acid peptic disorder, is one of the most prevalent gastrointestinal ailments affecting populations worldwide. It is primarily characterized by excessive secretion of gastric acid, which disturbs the delicate balance between the protective and aggressive factors of the gastric mucosa. The major manifestations include burning sensation in the epigastric region, nausea, sour

belching, regurgitation, and discomfort after meals. The growing prevalence of this condition is strongly associated with current lifestyle patterns, including irregular eating habits, increased consumption of processed and spicy foods, emotional stress, and reduced physical activity. These factors not only influence gastric acid secretion but also impair digestion and mucosal defense, leading to recurrent episodes of acidity and gastritis. In modern medicine, hyperacidity is managed predominantly through synthetic drugs such as proton pump inhibitors (PPIs), H₂-receptor antagonists, and antacids. Although these agents offer quick symptomatic relief, their continuous or long-term use has been linked to undesirable consequences like hypochlorhydria, malabsorption of essential micronutrients, gut flora imbalance, and rebound acid hypersecretion after withdrawal. Moreover, they target the symptoms rather than addressing the underlying metabolic and digestive imbalance responsible for the disorder. Hence, there is a growing demand for safe, natural, and holistic remedies that can restore digestive equilibrium and offer long-term relief without adverse effects. From the Ayurvedic perspective, hyperacidity corresponds to Amlapitta, a disorder caused by the vitiation of Pitta dosha and impairment of Agni (digestive fire). Ayurveda conceptualizes health as a state of equilibrium among the three doshas Vata, Pitta, and Kapha and emphasizes the maintenance of proper digestive fire for overall well-being. An imbalance in Pitta, often triggered by consumption of hot, oily, and sour foods or emotional disturbances, leads to the excessive production of acidic secretions. The therapeutic approach in Ayurveda aims to normalize Pitta, improve digestion, detoxify the gastrointestinal tract, and strengthen mucosal defense through herbal formulations and dietary regulations. One such

renowned formulation that has stood the test of time is Avipattikar Churna. This polyherbal powder is described in several classical Ayurvedic texts such as Bhaishajya Ratnavali and Charaka Samhita, where it is indicated for Amlapitta, gastritis, and dyspepsia. The formulation is composed of multiple herbs that work synergistically to pacify Pitta dosha and enhance digestive functions. Among its many constituents, five herbs Amalaki (*Emblica officinalis*), Haritaki (*Terminalia chebula*), Bibhitaki (*Terminalia bellirica*), Pippali (*Piper longum*), and Sunthi (*Zingiber officinale*) play the most significant roles in providing gastroprotective and antioxidant benefits. Each of these components contributes to the holistic action of the formulation. Amalaki is rich in vitamin C, tannins, and polyphenols, which impart cooling and antioxidant properties, thereby neutralizing gastric acid and protecting the stomach lining. Haritaki and Bibhitaki possess mild laxative, detoxifying, and anti-inflammatory actions that aid in the removal of metabolic toxins (Ama) and promote digestive harmony. Pippali enhances bioavailability and improves nutrient absorption by stimulating digestive enzymes, while Sunthi acts as a carminative and anti-nauseant that reduces bloating and promotes smooth gastric emptying. Collectively, these herbs balance Pitta, support normal secretion of gastric juices, and restore digestive strength without causing side effects. From a pharmacological viewpoint, Avipattikar Churna exhibits a combination of antioxidant, anti-inflammatory, mucosal protective, and carminative activities. The presence of phenolic compounds and flavonoids scavenges free radicals and mitigates oxidative stress one of the key contributors to mucosal injury. The mucoprotective properties of the formulation enhance the production of gastric mucus, forming a protective barrier against acid-induced damage. Additionally, its anti-inflammatory action helps reduce hyperemia and mucosal inflammation, while its digestive and laxative effects facilitate proper gastrointestinal motility and detoxification. These multidimensional activities make the formulation both curative and preventive in nature. As a polyherbal formulation, Avipattikar Churna demonstrates synergistic action, where each constituent amplifies the therapeutic potential of the others. Unlike single-drug treatments, polyherbal combinations address multiple targets simultaneously acid neutralization, mucosal healing, digestive

stimulation, and oxidative protection thus providing comprehensive management of hyperacidity. Recent pharmacological studies have begun to validate these traditional claims by demonstrating that Avipattikar Churna reduces free acidity, strengthens gastric mucosa, and improves enzymatic activity in experimental ulcer models. These findings support its traditional application and suggest that it can serve as an effective natural alternative to synthetic antacids and PPIs. The growing scientific interest in Ayurvedic formulations highlights the need to integrate traditional knowledge with modern research methodologies. Evaluating Avipattikar Churna through the lens of contemporary pharmacology not only helps validate its efficacy but also facilitates its global acceptance as a safe and evidence-based therapeutic option. In this context, the present review aims to explore the scientific foundations, phytochemical composition, pharmacological mechanisms, and therapeutic applications of Avipattikar Churna in managing hyperacidity. Emphasis is placed on understanding its gastroprotective and antioxidant potential, the synergistic role of its herbal components, and the need for further clinical standardization to ensure its efficacy and safety in modern healthcare systems.

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:IndianGooseberry
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 MyrobalanFamily: 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 MyrobalanFamily: 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)

CommonName:LongPepper **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

BotanicalName:Foeniculumvulgare **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 (<i>Saccharum officinarum</i>)	263 mg	Natural sweetener and mucosal protector
3	Fennel (<i>Foeniculum vulgare</i>)	100 mg	Flavoring and mild digestive agent
4	Amalaki (<i>Emblica officinalis</i>)	150 mg	Cooling and antioxidant agent
5	Haritaki (<i>Terminalia chebula</i>)	100 mg	Detoxifying and mild laxative
6	Bibhitaki (<i>Terminalia bellirica</i>)	100 mg	Astringent and digestive tonic
7	Pippali (<i>Piper longum</i>)	50 mg	Bioavailability enhancer and carminative
8	Sunthi (<i>Zingiber officinale</i>)	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.

IV. PHARMACOLOGICAL AND SCIENTIFIC EVALUATION OF AVIPATTIKAR CHURNA

Avipattikar Churna is one of the most commonly prescribed Ayurvedic polyherbal formulations for the management of Amlapitta (hyperacidity) and related gastric disorders. Recent pharmacological investigations have validated many of its traditional claims, highlighting its antiulcer, antioxidant, anti-inflammatory, digestive, and hepatoprotective properties. These effects are attributed to the combined activity of its herbal ingredients, particularly Amalaki, Haritaki, Bibhitaki, Pippali, and Sunthi.

- **Antiulcer Activity**

Several experimental studies have demonstrated that Avipattikar Churna significantly reduces ulcer formation and gastric lesions induced by stress, aspirin, or alcohol in animal models. The formulation decreases free and total acidity while increasing gastric mucus secretion and pH levels. These actions are linked to the presence of tannins, flavonoids, and phenolic compounds that strengthen the mucosal barrier and prevent acid-induced injury.

- Amalaki and Haritaki have shown protective effects on the gastric mucosa by reducing pepsin activity and enhancing mucin production.
- Bibhitaki and Sunthi help maintain epithelial integrity and support faster mucosal healing.

Thus, the formulation acts not only by neutralizing excess acid but also by improving mucosal defense mechanisms.

- **Antioxidant Properties**

Oxidative stress plays a crucial role in the pathogenesis of gastritis and hyperacidity. Avipattikar Churna exhibits strong free radical-scavenging activity, primarily due to bioactive compounds like gallic acid, ellagic acid, emblicanin A and B, and vitamin C. These antioxidants prevent lipid peroxidation of the gastric mucosa and reduce inflammation. Studies have reported increased levels of superoxide dismutase (SOD) and catalase enzymes in gastric tissues after administration of Avipattikar Churna or its individual herbs, confirming its ability to enhance endogenous antioxidant defense.

- **Anti-inflammatory and Cytoprotective Effects**

Chronic gastric irritation and inflammation contribute to recurrent hyperacidity. The formulation exhibits significant anti-inflammatory action through inhibition of pro-inflammatory mediators such as prostaglandins and cytokines.

- Sunthi and Pippali contain compounds like gingerol and piperine, which suppress inflammatory pathways and protect the gastric epithelium.
- Amalaki and Haritaki further promote cytoprotection by stabilizing cell membranes and reducing histamine release.

These combined effects lead to the healing of erosions and reduction of gastric discomfort.

- **Digestive and Carminative Activity**

Avipattikar Churna enhances digestive efficiency by stimulating the secretion of digestive enzymes and bile, which help in proper breakdown and assimilation of food.

- Pippali and Sunthi act as natural Deepana–Pachana agents (appetizer and digestive stimulants) that regulate gastric motility and relieve bloating, nausea, and flatulence.
- The formulation also aids in the detoxification of the gastrointestinal tract, thereby improving overall gut health.

Through this mechanism, it prevents accumulation of undigested food (Ama) and maintains the balance of Pitta dosha.

- **Hepatoprotective and Detoxifying Effects**

Since liver function is closely linked to digestion and acid secretion, Avipattikar Churna also exhibits hepatoprotective activity. Bibhitaki and Haritaki enhance bile flow and protect hepatic cells from oxidative damage, thereby supporting better fat metabolism and reducing toxin accumulation. This detoxifying effect contributes indirectly to reducing acidity and maintaining digestive equilibrium.

- **Clinical Evidence**

Preliminary clinical studies and traditional case observations have reported positive outcomes in patients with acid peptic disorders, gastritis, and sour belching. Administration of Avipattikar Churna (3–5 g twice daily with water or milk) has shown to relieve symptoms such as burning sensation, nausea, and abdominal discomfort within a short duration. Patients treated with the formulation exhibited improved appetite, reduced acid reflux, and better tolerance compared to those on synthetic antacids. No adverse effects were reported even after long-term use, confirming its safety profile.

V. DISCUSSION AND CONCLUSION

The increasing prevalence of hyperacidity and related gastric disorders in the modern era has created an urgent need for safe and sustainable treatment options. While allopathic medicines such as proton pump inhibitors and antacids provide fast relief, they often fail to address the root cause of the condition and may lead to several adverse effects with long-term use. This

limitation has shifted global attention toward traditional systems of medicine like Ayurveda, which emphasize restoring digestive balance and metabolic stability rather than merely suppressing symptoms. The present review highlights that Avipattikar Churna, an ancient Ayurvedic polyherbal formulation, possesses multiple pharmacological actions that make it a potent natural remedy for hyperacidity. Each of its ingredients contributes specific therapeutic properties. Amalaki acts as an antioxidant and mucosal protector, Haritaki and Bibhitaki assist in detoxification and bowel regulation, while Pippali and Sunthi stimulate digestive enzymes and enhance nutrient absorption. The combined activity of these herbs results in balanced gastric acid secretion, protection of the mucosal lining, and improved digestion. Modern pharmacological research validates the Ayurvedic claims by demonstrating that Avipattikar Churna exhibits antiulcer, anti-inflammatory, antioxidant, and hepatoprotective properties. These effects are largely due to the presence of bioactive compounds such as vitamin C, tannins, flavonoids, phenolic acids, and alkaloids, which work synergistically to prevent oxidative and acid-induced mucosal injury. Moreover, studies show that the formulation not only reduces gastric acidity but also increases mucus secretion and enzymatic defense, indicating a dual mechanism of action both protective and curative. From an Ayurvedic perspective, Avipattikar Churna acts by pacifying aggravated Pitta dosha and strengthening Agni (digestive fire) without causing dryness or irritation. Its formulation aligns with the principle of Samprapti Vighatana breaking the disease pathway by neutralizing the causative factors. Hence, it restores the equilibrium of digestive functions and prevents recurrence of symptoms, which makes it more holistic compared to synthetic therapies. In clinical contexts, patients administered with Avipattikar Churna have reported significant improvement in symptoms like burning sensation, nausea, sour belching, and abdominal discomfort. Its long-term use has shown excellent tolerance and safety, confirming its non-toxic nature. This positions the formulation as a viable herbal alternative or adjunct therapy in the management of acid peptic disorders. However, despite promising traditional and preliminary scientific evidence, there is a need for well-designed clinical trials and standardization of formulations to

confirm its efficacy, safety, and dosage consistency. Future research should also focus on identifying active phytoconstituents, elucidating molecular mechanisms, and exploring synergistic interactions among the ingredients using advanced analytical techniques. In conclusion, Avipattikar Churna represents an effective, safe, and scientifically supported herbal remedy for hyperacidity. It bridges traditional Ayurvedic wisdom with modern pharmacological understanding and holds great potential to be integrated into contemporary healthcare systems as a natural gastroprotective agent. By addressing the underlying cause of the disorder while maintaining digestive health, this formulation embodies the holistic approach that defines Ayurvedic therapeutics.

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