

CHAPTER 09

Traditional uses of *Phyllanthus emblica*

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ABSTRACT

Phyllanthus emblica L., commonly known as Amla or Indian Gooseberry, holds a revered place in traditional medicine systems like Ayurveda, Unani, and Siddha. Celebrated as a potent Rasayana, Amla is renowned for its multifaceted therapeutic properties, attributed to its unique combination of five tastes and its rich Vitamin C content stabilized by tannins. Traditionally, the fruit is used as a daily tonic to balance the Tridosha (Vata, Pitta, Kapha), enhance digestion, regulate bowel movements, and strengthen the immune system. Decoctions of fruit, bark, leaves, roots, and seeds are widely used in managing ailments such as diabetes, diarrhoea, respiratory disorders, and skin diseases. Additionally, external applications of Amla preparations are well-documented for promoting hair growth, enhancing complexion, and alleviating headaches. Despite centuries of empirical use, many of these traditional applications align with modern pharmacological studies, highlighting Amla's antioxidant, anti-inflammatory, antimicrobial, and hepatoprotective effects. However, several folk practices await scientific validation to elucidate their precise mechanisms of action.

KEYWORDS: Amla, medicinal uses, edible fruit, traditional therapeutic practices

INTRODUCTION

Phyllanthus emblica, commonly known as Amla or Indian Gooseberry, is revered in Ayurveda and Unani systems of medicine for its remarkable therapeutic properties. It is known as Amalaki, Dhartiphala, Divya, and Amrit Phala in Sanskrit. Also known as “fruit of heaven” or “nectar fruit.” The name Amlaki translates to "The Sustainer" or "The Fruit where the Goddess of Prosperity Resides," and in Hindu mythology, the tree is worshipped as the Earth Mother for its nourishing qualities (Singh et al. 2011; Kulkarni and Kashyap 2020). *P. emblica* is a small to medium-sized deciduous tree, belonging to the family Phyllanthaceae, growing up to 8–18 meters tall. It is native to tropical Southeast Asia and is widely distributed in India, Pakistan, Sri Lanka, Bangladesh, China, Malaysia, and Uzbekistan, thriving in tropical and subtropical forests, ascending to 4500 ft in the hills (Fazil and Nikhat 2019; Borah et al. 2022). In India, it holds a central place in traditional medicine, extensively referenced in ancient texts like the Charaka Samhita (500 BC). Amla is a nutritional powerhouse, rich in Vitamin C, amino acids, fiber, iron, carbohydrates, and essential minerals (Singh et al. 2011). It is regarded as the richest natural source of Vitamin C, which is stabilized by the presence of tannins, making it resistant to degradation by heat and light. Its primary bioactive constituents include tannins (Emblicanin A & B), gallic acid, ellagic acid, flavonoids, phenolic compounds, saponins, terpenoids, and other phytochemicals (Hasan et al. 2016; Malviya et al. 2023). The fruits are used in various forms- eaten raw, pickled, preserved as Murabba, or consumed as juice, chutneys, powders, and medicinal formulations. Amla is a key ingredient in the traditional Ayurvedic formulation Triphala, which combines *Emblica officinalis*, *Terminalia bellirica*, and *Terminalia chebula* for its rejuvenative properties (Nayak and Kumar 2023). Several herbal and patented formulations are derived from Amla, utilized in managing a variety of health conditions. Medicinally, Amla exhibits a broad spectrum of pharmacological activities. Traditionally, it has been used as a rasayana (rejuvenator) for promoting longevity and vitality (Table 1). It acts as a digestive tonic, diuretic, anti-pyretic, anti-inflammatory, hepatoprotective, and cardiogenic (Sahana and Sahana 2025). Fresh Amla juice is given for anemia, dyspepsia, excessive thirst, and liver disorders. The fruit is widely acclaimed for its immunomodulatory, antioxidant, anti-mutagenic, and anti-cancer properties (Prananda et al. 2023). Research has documented its analgesic, anti-tussive, anti-atherogenic, adaptogenic, gastro-protective, nephroprotective, neuroprotective, and chemopreventive actions (Gaire and Subedi 2014; Singh

et al. 2015). Amla is extensively used in managing diseases like diabetes, jaundice, diarrhea, anemia, ulcers, respiratory infections, cardiovascular diseases, liver ailments, and even as a protective agent against radiation and chemotherapy side effects. Its potent free radical scavenging capacity aids in cellular repair, slows aging processes, and strengthens body immunity (Sahana and Sahana 2025). It is not only a vital dietary fruit but also a cornerstone of traditional medicine, symbolizing a holistic approach to health and wellness. The present-day scientific community continues to explore its vast therapeutic potential, with ongoing research focusing on its biochemical mechanisms and clinical applications in chronic diseases. Future research directions should emphasize validating its traditional claims through rigorous clinical trials, ensuring its integration into evidence-based modern medicine.

MORPHOLOGY

P. emblica, commonly known as Amla or Indian Gooseberry, is a medium-sized deciduous tree reaching up to 8–18 meters in height with a crooked trunk and spreading branches. The bark is thin, greyish-brown to greenish-grey, exfoliating in irregular flakes, revealing fresh greenish patches beneath. The leaves are simple, small, light green, and resemble pinnate leaflets, though they are arranged in a distichous pattern along slender branchlets, giving the appearance of compound leaves. Each leaf is about 1–2 cm long and 0.3 cm wide, oblong-linear in shape, with an entire margin. It bears small, greenish-yellow flowers that are unisexual and axillary, arranged in fascicles or clusters. Male flowers are numerous, clustered in leaf axils, while female flowers are few and solitary or in small groups near the ends of branchlets. The calyx is 6-lobed, and the petals are absent. Flowering occurs mainly in March to May. The fruit is a nearly spherical, light greenish-yellow drupe, about 2.5–3.5 cm in diameter, with six vertical stripes or furrows running from top to bottom, giving it a ribbed appearance. The fruit is smooth, fleshy, and has a characteristic astringent-sour taste, with a tough, woody endocarp enclosing six triangular seeds, each located in separate locules. The fruits ripen from October to December (Pria and Islam 2019; Kumar et al. 2022; Avinash et al. 2024; Figure 1).

TRADITIONAL MEDICINAL USES

Fruit

The fruit of *P. emblica* is the most extensively used part, known for its potent rejuvenative (Rasayana) properties. It is traditionally consumed in various

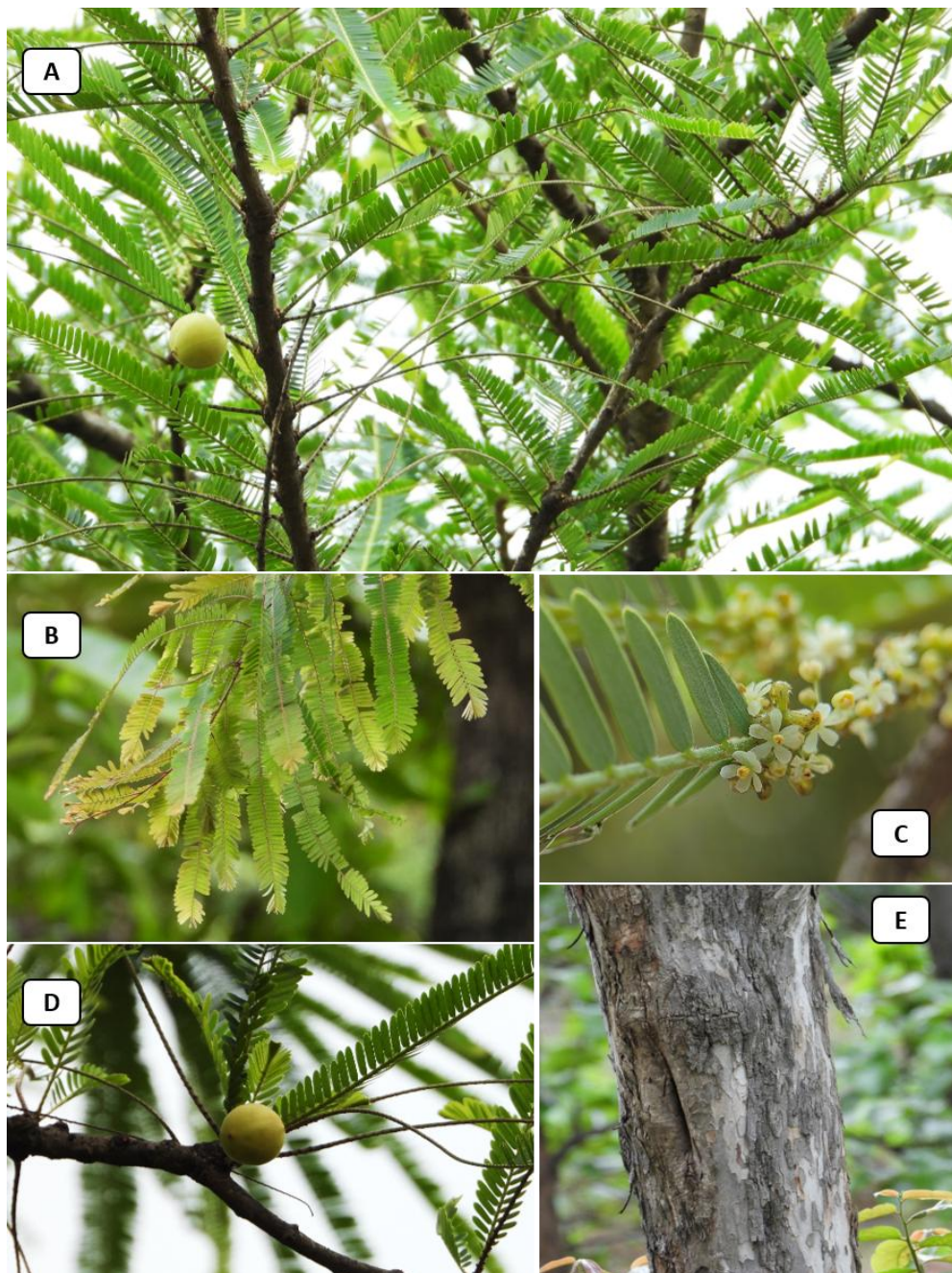


Figure 1: Vegetative parts of *P. emblica*; A) canopy, B) Leaves, C) Flowers. D) Fruit, E) Bark

forms: fresh, pickled, preserved in sugar, or dried as a daily laxative to relieve constipation. Decoctions of fresh fruits are used as refrigerants and aperients

to manage fevers. Amla fruit is integral in diabetes management, where its juice is combined with bitter gourd juice to regulate blood sugar and prevent diabetic eye complications (Singh et al. 2011; Hasan et al. 2016).

In folk medicine, Amla fruits are described as cooling, carminative, digestive, stomachic, aphrodisiac, laxative, antipyretic, and tonic (Shrivastava et al. 2022). They are beneficial in managing ailments like dyspepsia, colic, flatulence, hyperacidity, peptic ulcers, skin diseases, leprosy, anaemia, emaciation, hepatopathy, jaundice, diarrhoea, dysentery, haemorrhages, leucorrhoea, menorrhagia, cardiac disorders, fevers, and premature greying of hair. Amla is known to balance all three doshas; Vata, Pitta, and Kapha, making it an important tree in Ayurvedic formulations like Triphala and Chyawanprash (Nayak and Kumar 2023).

The fruits are acclaimed for their antibacterial, antifungal, antiviral, and antioxidant properties, acting as potent free radical scavengers. The pericarp decoction, sometimes mixed with other herbs, is applied externally for boils, skin sores, spots, wounds, and to soothe inflammations in the mouth (Lanka 2018; Acharya et al. 2021). Additionally, fruit pastes are used topically for headaches, nausea, and vomiting, and crushed fruits are traditionally believed to stimulate hair growth and prevent dandruff (Saini et al. 2022). Amla's tannin content offers strong antimicrobial effects, while its chromium, zinc, and copper content aids in metabolic disorders, including diabetes and anemia. The fruit is also traditionally employed as an anti-aging agent, anti-cancer remedy, and for tuberculosis management (Shrivastava et al. 2022; Alkefai et al. 2023).

Leaves

The leaves are primarily used in decoctions and external applications. An infusion of leaves serves as an effective ocular rinse for conjunctivitis, ocular inflammation, and other eye disorders (Masihuddin et al. 2019; Kulkarni and Kashyap 2020). Decoctions of leaves mixed with fenugreek seeds are used in traditional medicine to treat chronic diarrhoea and dysentery. A paste of fresh leaves mixed with honey is consumed to relieve gastrointestinal disturbances, leveraging their astringent and anti-inflammatory properties (Mirajkar and Hambire 2021).

Bark

The bark juice, when combined with honey and turmeric, is administered for its antimicrobial action, particularly in treating gonorrhoea (Saini et al. 2022). Bark decoctions are used to manage diarrhoea, leucorrhoea, and other

infections due to their astringent and antibacterial qualities. In folk practices, the juice is also applied to skin inflammations and wounds to expedite healing (Pria and Islam 2019).

Root

The root paste, consumed twice daily post-meals, is traditionally used for dental problems, providing analgesic and anti-inflammatory relief for toothaches (Kulkarni and Kashyap 2020). Additionally, decoctions of the root are used for treating diarrhoea, dysentery, and as a general detoxifying agent. In folklore, the root is applied to snakebites and scorpion stings for its wound-healing properties (Dasaroju et al. 2014).

Seeds

The seeds of Amla are valued in asthma and bronchitis management, where they are processed into powders or decoctions to alleviate respiratory conditions. An infusion of seeds is also used as a collyrium (eye wash) to soothe ocular inflammations. Seeds possess anti-mutagenic properties, supporting the body's defense against genetic mutations and oxidative stress-related disorders (Dasaroju et al. 2014; Hasan et al. 2016).

Table 1: Medicinal uses of *P. emblica*

Disease (s)	Plant part used	Form	Mode of application
Constipation	Fruit	Fresh/dry fruit (pickle, preserved, powder)	Oral consumption daily as laxative
Diabetes	Fruit, seeds, leaves	Fruit juice with bitter gourd juice, seed decoction, leaf decoction	Oral intake daily for blood sugar regulation
Diarrhoea and Dysentery	Fruit, bark, root, leaves	Decoction, leaf paste, bark decoction	Oral consumption of decoctions; Leaf paste taken with honey
Fever	Fruit, leaves, seeds	Decoction with other herbs	Oral intake as a cooling agent

Liver Disorders	Fruit	Fresh/dry fruit (juice, powder)	Oral intake to purify Rasa & Rakta (nutrient plasma & blood)
Hyperacidity/ pitta disorders	Fruit	Fresh/dry fruit (powder, preserved)	Oral intake to balance excess Pitta
Anaemia	Fruit	Fresh/dry fruit (juice, powder)	Oral intake to enhance iron assimilation
Cardiac diseases	Fruit	Fresh/dry fruit (juice, powder)	Oral intake to promote heart health & circulation
Respiratory disorders	Fruit	Juice, powder	Oral intake for Kapha balancing
Oral inflammations	Leaves, root bark	Decoction mixed with honey	Topical application in mouth
Toothache and dental infections	Root, leaves	Root Paste, leaf Juice (as ear drops)	Root paste consumed orally; Leaf juice applied in ear (opposite side of pain)
Gonorrhoea	Bark	Bark juice mixed with honey & turmeric	Oral intake
Rheumatism	Fruit	Dry fruit powder mixed with jaggery	Oral intake twice daily for a month
Eye disorders	Leaves, seeds	Leaf infusion, seed infusion	Applied as eyewash

Skin disorders	Fruit	Decoction	External application on the affected skin
Hair tonic	Fruit	Fresh fruit paste	Applied externally on the scalp
Headache, nausea, vomiting	Fruit	Fruit paste	External application on the forehead
Leucorrhoea	Bark	Decoction	Oral intake
Mutagenic protection	Seeds	Seed extract	Oral intake to protect against genetic mutations

CONCLUSION

The traditional uses of *P. emblica* reflect a profound understanding of its holistic health benefits, as preserved in ancient medicinal practices. The versatility of its applications across a range of ailments, from gastrointestinal disorders and metabolic syndromes to dermatological and ophthalmic conditions, makes it a key component of herbal therapeutics. The synergistic actions of its bioactive compounds, particularly its adaptogenic and immunomodulatory properties, validate its revered status as a Rasayana in Ayurveda. While contemporary research continues to affirm many of these traditional claims, further clinical studies are essential to fully authenticate and standardize their therapeutic potential. Integrating traditional knowledge with scientific evidence can pave the way for developing effective phytomedicines and promoting the global acceptance of *Phyllanthus emblica* as a valuable health supplement.

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