

Anukta Dravya: Unexplored Potential and Future Prospects in Ayurveda

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Abstract: The floristic diversity of India contains a large variety of Anukta dravyas (extrapharmacopoeial drugs) which are not included in classical Ayurveda textbooks and API and is being used extensively from decades. Many plant medicines with therapeutic qualities were not listed in classical treatises due to the innumerability of plant species. Therefore, no any classical herbal pharmacopeia is available which enumerates all the medicinal plants. Nowadays, we need to continually update our knowledge by learning from botanists, Forest Department officials, field workers, and other experts. A systematic approach can help conserve traditional knowledge, minimize the substitution of crude drugs, broaden the Ayurvedic materia medica, and facilitate the future inclusion of these drugs in official pharmacopoeias.

Keywords: Anukta Dravya, Ayurvedic text, Ayurvedic pharmacopeia

1. Introduction

Ayurveda which literally means “The Science of life” is one of the most ancient medical sciences of the world. At present many diseases have emerged due to the changed lifestyle. The world has also now recognized the importance of herbal medicine. Natural medicines are considered to be safe as they do not contain any synthetic chemicals. It is a natural holistic healthcare approach in which plants are employed as medicine. Each *Dravya* acts like a medicine when used with proper planning, as delineated by *Charaka*. Many plants have been used in Ayurveda since time immemorial. *Vedic* to *Samhita* and *Samhita* to *Nighantu Kaal* evidenced the chronological up gradation of medicinal plants. Inclusion of new Drugs has been the tradition of Ayurveda. Writers of *Nighantus* especially played a great role in this work e.g. Introduction of *Chopchini* (*Smilax china* Linn.) by *Bhavamishra* for *Firanga roga* (Syphilis) etc. However, many folklore and exotic plants existing in India have yet not been stated in Ayurvedic *Samhitas* or *Nighantus*, such are termed as ‘*Anukta dravya*’. We shouldn’t confine ourselves in the periphery of knowledge of medicinal plants available in *Brihatrayi*, *Laghutrayi* etc. rather expand it by studying *Anukta dravyas* surrounding us.

Need

- Many important medicinal plants have been red listed and many are on the way. *Anukta Dravyas* may solve the problem of scarcity of medicinal plants.
- We are in era of newly emerging diseases, *Anukta Dravyas* may help in finding their solution.
- Expansion of Ayurvedic pharmacopeia.

This process of updation of *Dravyas* were lost in course of time. In the present era, there is much significance in the discovery and scientific validation of *Anukta Dravyas*, which are extensively used among the tribals.

Scriptures Verdict

Traditional texts never bind us to the idea that whatever was written in that particular era is final or sufficient for all time. Rather, they encourage us to adapt with changing times and to use reason, intellect, observation, and experience to

identify new plants, understand their properties, explore their uses, and incorporate this evolving knowledge into our tradition. *Maharishi Charaka* while concluding *Mahakashayas* in *Sutra- Sthana* 4th Chapter said that ‘the intellectual person may find out properties from new drug after the logical examination and analysis’.

ओषधीर्नामरूपाभ्यां जानते ह्यजपा वने।
अविपाश्चैव गोपाश्च ये चान्ये वनवासिनः॥

Acharya Charaka clearly states that information about unknown drugs should be collected from forest dwellers, shepherds tribes etc.

Floral Wealth of India and its ethno medicinal value

The rich history and contemporary relevance of traditional Indian medicine, particularly Ayurveda, which has utilized approximately 7,000 medicinal plants for over 5,000 years. Indigenous knowledge systems in India, particularly in the utilization of local flora for medicinal purposes, are deeply rooted in the cultural and ecological diversity of the region. In North-East India, the Scheduled Tribe communities rely on a rich biodiversity of 236 medicinal plants for their traditional healthcare systems, which not only address health needs but also hold potential for socio-economic upliftment through the herbal drug sector. Similarly, in the northern regions of Jammu and Kashmir, four ethnic groups utilize 109 plant species, predominantly from the Asteraceae family, for treating various ailments, with herbs being the most common form used. The Bakerwal, Gujjar, and Pahadi groups show a higher similarity in plant use, while the Kashmiri group exhibits distinct preferences, highlighting cultural specificity in plant utilization. In the Sundarban mangrove forest region, tribal communities employ a variety of plants to treat conditions such as cuts, wounds, digestive disorders, and blood pressure, demonstrating the continued relevance of traditional medicine despite the rise of modern medical practices. Ethnopharmacology plays a crucial role in bridging traditional wisdom with modern health systems. The documentation and scientific validation of traditional knowledge are essential to prevent knowledge erosion and to develop curative pharmaceutical products. The diversity of traditional medicine practices across India, from the Siddha

system in Tamil Nadu to the ethnomedical practices of tribal communities in Madhya Pradesh, reflects a rich tapestry of cultural heritage and indigenous knowledge, each adapted to local ecological and cultural contexts^[1].

1) Kachri (Botanical name: *Cucumis melo* var. *agrestis*, Family: *Cucurbitaceae*)^[2]

This fruit of semi-arid and arid region has been used extensively in Thar desert and its nearby areas like south Punjab, west Haryana, Gujrat. *Kachri* fruit looks like miniature of watermelon due to green colour and black stripes on its peel. It is utilized as a coolant to prevent heat after effects. This knowledge has currently transformed the medicinal sector and health industries by becoming the basis of numerous research studies.



Traditional uses and health benefits of Kachri

The application of *Kachri* seeds for vermifuge activities, curing digestive disorders, and urinary problems is also well known. In India, the stores of *Kachri* is stored in dehydrated form and kept it for utilizing it in off season. *Chutney*, pickle, spicy powder, and cooked vegetable dish are some of the forms in which the fruit of *Kachri* is consumed.

Kachri is one such neglected and underutilized crop which has been researched upon recently and has shown to possess various therapeutic activities such as anti-oxidant, anti-cancer, anti-diabetic, anti inflammatory, hepatoprotective, and anti-microbial (Gadekar, 2023; Panda S, 2016; Panda et al., 2018; Varadharajan et al., 2016; Yadav et al., 2022). Various researches have put forward the fact the *Kachri* has a good nutritional profile. Therefore, extensive investigation of this medicinal plant with plenty of phytochemicals becomes a necessity.

2) Balam Kheera (Botanical name: *Kigelia africana* Lam. Family: *Bignoniaceae*)^[3,4]

Kigelia africana occurs throughout tropical Africa. The tree can grow up to 20m tall. It is an evergreen tree where rainfall occurs the whole year, but deciduous where there is a long dry season. The flowers as well as fruits hang down words from the on long flexible stems. They are bell-shaped, orange to reddish or purplish green. *Kigelia africana* is famous by its huge fruits with weigh between 5 to 10kg. In India it is known as *Balam kheera*.



Traditional uses and health benefits of Balam kheera

All the parts of the tree are widely used by traditional healers. For example, the fruits are used to manage skin conditions like fungal infections, eczema, psoriasis, boils and leprosy. In some African cultures, women use the sap from the fruit of the tree for firming the skin around their breasts. The plant is also claimed to have potent wound healing activity and for treatment of skin cancers. The fresh and dried fruits can be boiled with water and given to patients to treat ulcers, sores, syphilis and rheumatism. The stem bark of this tree has been used by traditional healers to treat health complications like hydrocele (elephantiasis of the scrotum) and rheumatic conditions like inflammation, swelling, and pain in the joints or muscles. The stem bark powder can also be put in hot water to make an infusion to treat stomach disorders in children while an infusion from the roots bark is taken to treat pneumonia.

3) Noni (Botanical name: *Morinda citrifolia*, Family: *Rubiaceae*)

This plant, originally native to Southeast Asia, was spread to the Pacific islands and other tropical regions. It is small evergreen shrub up to 6m tall at maturity. oval and fleshy fruit with hard and rough peel which softens at maturity. Its fruit size up to 14 cm in length and 8 cm in diameter producing unpleasant odour during its advanced ripening stage. Moreover, the fruit contains up to 260 seeds.



Traditional uses and health benefits of Noni

Noni tea is versatile and beneficial, treating malaria, acting as a febrifuge and analgesic. Its stem bark decoction cures

jaundice, while the seed oil serves as a scalp insecticide. leaves or fruit poultices heal tuberculosis, sprains, bruises, and rheumatism. The fruits stimulate appetite and brain function and the bark and roots yield pigments for dye-making, traditionally used to colour clothing. Additionally, *Noni* seed oil repels insects on the scalp. It aids menstrual migraine headaches. Noni juice effectively lowers high blood pressure^[5].

4) Harit Manjari/Kuppi (Botanical name: *Acalypha indica* Linn., Family: *Euphorbiaceae*)^[6]

Acalypha indica is one of weed plants that contain important medicinal values for human health applications. It can be found commonly in India, Sri Lanka Thailand and Pakistan. *Acalypha indica* is one of weed plants that contain important medicinal values for human health applications. It can be found commonly in India, Sri Lanka Thailand and Pakistan.

Acalypha indica is one of weed plants that contain important medicinal values for human health applications. It can be found commonly in India, Sri Lanka, Thailand and Pakistan. It reaches about 50–70 cm in height, with soft, ovate leaves marked by toothed edges and a distinctive coppery green tinge.



Traditional uses and health benefits of *Harit Manjari/Kuppi*

Acalypha indica also can be used to treat insect bites. Since *Acalypha indica* can cure ailments related to the skin, it is also applied to insect bites to reduce soreness. The released fluid from crushed leaves is useful as a lubricant for child constipation treatment by applying the small ball-shaped made from leaves into the rectum. An adult with haemorrhoids can also use the fluid by rubbing it around the rectum. the fresh leaves possess a high amount of volatile chemicals to treat headaches, epilepsy, ear aches and as an expectorant. The volatile compound secreted by the leaf can treat a headache, ear aches, epilepsy, and act as an expectorant.

5) Tankari (Botanical name: *Physalis minima* Linn., Family: *Solanaceae*)^[7]

P. minima is an annual herbaceous plant with erect stem, more or less pubescent; leaves are ovate, acute, shallowly toothed or lobed, more or less pubescent, and thin, with cuneate base. Flowers are solitary. Calyx is yellow. The berry is 8 mm subglobose, reticulately veined. Seeds are discoid 2mm diameter, orange yellow.



Traditional uses and health benefits of *Tankari*

Fruits and leaves are said to be edible. In parts of Africa, the fruits are used as preservatives. Various folklore uses of the drug have been reported. The fruit is considered as tonic, diuretic and purgative. In the *Konkan*, the plant is made into a paste with rice water and applied to restore acid base, in accordance with the doctrine of signature. The *Mundas of Chota Nagpur* use the juice of the leaves mixed with water and mustard oil as a remedy for earache. After injecting some drops of the leaves mixed they plug the ear with cotton wool. Fruit infuses vigour in worn out system and cures premature decay. A compound medicated oil containing black salt, *Saindhva* salt, *Javakhara*, ginger, butter or ghee is used as an application in cases of enlargement of spleen. The drug is also used in snake and scorpion envenomation. The whole plant is used in diabetes, dysuria and swellings. In siddha system, physalis plant is used in diabetes, dysuria and swellings. The ethno-medicinal use of each part is also described, whole plant is used in earache leaf is indicated in fever root in gastric diseases and fruits in diarrhoea and toothache.

6) Badi Imli (Botanical name: *Entada Adans*, Family: *Fabaceae*)^[8]

Entada adans is a small pantropical genus comprising 30 species of woody vines in the pea family Fabaceae. The plants are with small, sessile flowers in spikes and gigantic woody pods up to 1.5 m (4.9 ft) length, containing highly polished, flat, and big round seeds. The terminal pinnae of the *Entada* species are modified into tendrils and the stems are often more than 30 cm in diameter. Members of this genus are frequently found among streamside forests, coastal thickets, riverine vegetation, sandy soils, and the seeds are dispersed by water.



Traditional uses and health benefits of *Badi Imli*

Entada adans are used in traditional medicine for the treatment of liver diseases, stomach-ache, cold, hemorrhoids, arthritis, rheumatism, pulmonary problems, diarrhea, dysentery, cutaneous parasitic infections, venereal diseases, sleeping sickness, epilepsy, convulsions, etc. Seeds of these woody lianas are used by traditional healers as an analgesic, counter irritant, hair growth promoter, emetic and in skin diseases and cerebral hemorrhage. Paste made from the leaves, bark and roots of this plant are used to clean wound, treat burns, and cure jaundice in children. In South India, the tribal community women consume the seeds paste of it to improve lactation.

7) *Khoobkala* (Botanical name: *Sisymbrium irio* Family: *Brassicaceae*)^[9]

Sisymbrium irio is a winter annual, stiffy erect, Tap rooted plant. The height of the plant is around three feet, has open, thin stem branches with pale yellow flowers. The leaves at the top portion of the plant are linear in shape and around four inches long while the lower leaves are broader than the upper leaves.



Traditional uses and health benefits of *Khaksi*

It is known that the *Khaksi* used to lowers the body temperature by enhancing the sweating and it also removes the unwanted particles causes diseases through the skin pores. Infusion made from leaves of the plant is used for treating throat and chest infammation. It is used for treating rheumatism, coughs, purification of liver, upper body mobbing, infammation, irritation and injuries. The seeds of the plant are

used as expectorant, stimulant, restorative, tonic, used externally as poultice and also as febrifuge.

8) *Milk Thistle* (Botanical name: *Silybum marianum*, Family: *Asteraceae*)^[10]

Milk thistle is an upright, stout, annual or biennial plant that grows to a height of 5-10 feet. It has large, prickly, dark green leaves with milk-white veins, which create a flat rosette shape in its initial growth stages, giving it a speckled look. The leaves are elongated and have wavy lobes or are arranged pinnately, characterized by their spiny margins. During its flowering season, from June to September, the plant produces large purple flower heads, each containing a single, fragrant flower surrounded by sharp spines.



Traditional uses and health benefits of Milk Thistle

Milk thistle is a common remedy for jaundice and other biliary disorders in Europe. It is also a useful treatment for fungal food poisoning. The roots, when boiled, are consumed as a vegetable, while the herb is traditionally used to treat intermittent fevers, dropsy, and uterine problems. An extract from the plant is used externally for cancer therapy, while the leaves are known for their ability to induce sweating and promote digestion. The seeds are recognized for their ability to relieve spasms, soothe irritation, and their spicy characteristics, frequently utilized for addressing liver and gallbladder problems and managing bleeding. Nowadays, milk thistle is widely used in traditional medicine as a supplement to liver support.

9) Khatmi (Botanical name: *Althaea officinalis*, Family: *Malvaceae*)^[11]

Khatmi (*Althaea officinalis*), commonly known as Marsh mallow. *Khatmi* is a perennial plant with light brown coloured, long and thick root, ovate-cordate, slightly toothed leaves and pale pink or pale purple- coloured flowers. Root, leaves, flowers and seeds are mainly used in medicine. All the parts contain mucilage. This plant is native to Europe and Western Asia. *Khatmi* is found in North America along the eastern seaboard. It is also found in Delhi, Khasmir, Punjab, Uttar Pradesh, Rajasthan and also in Pakistan and Iran.



Traditional uses and health benefits of *Khatmi*

Althaea officinalis is beneficial for skin inflammation, ulcers, boils, abscesses, skin cuts and burns. Infusion of the plant leaf, root and flower are taken orally as an expectorant, emollient for bronchial catarrh and as a gastric protective and externally as an antiseptic. The root, boiled with black pepper, is taken orally for asthma and hot water extract as an expectorant and externally as a demulcent. Decoction of the dried root, flower and leaf are taken orally for constipation, cough, asthma and sore throat. Hot water extracts of the dried flower, root and the dried leaf are used externally as an emollient. Marsh mallow's demulcent qualities bring relief from bronchial asthma, sore throat, bronchial catarrh, pleurisy, dry cough, colitis, diverticulitis, irritable bowel syndrome, irritation of mucous membranes, as a gargle for mouth and throat ulcers, and gastric ulcers.

10) Naagdaman (Botanical name: *Euphorbia tithymaloides*, Family: *Euphorbiaceae*)^[12]

This succulent shrub grows upright, reaching up to 2.4 meters, and is distinguished by its zigzag-patterned green stems that inspired its nickname. Its foliage consists of simple, sessile, and glabrescent leaves that are smooth-edged, acuminate in form, and measure between 35 and 75 mm. The plant's flowers emerge from peduncles arranged in a dichotomous cyme pattern, accompanied by bifid, egg-shaped floral leaves and bright red involucre bracts shaped like slippers with uneven tips.



Traditional uses and health benefits of *Naagdaman*

The root of *Euphorbia tithymaloides* is recognized as a potent emetic in traditional medicine practices. Folk remedies also utilize leaf-infused tea to treat respiratory and oral conditions such as asthma, chronic cough, laryngitis, mouth ulcers, and venereal diseases. Root-based tea has been used for its abortifacient effects.

2. Conclusion

Our nation is richly blessed with the ancient knowledge of ayurveda, which describes numerous important medicinal plants, many of which have been extensively documented but it is not possible to speak about everything every time. Still many folklore plants and exotic plants are available in India which have not been mentioned in ayurvedic texts. It has been observed that a significant number of raw drugs used in the preparation of various formulations are derived from plants. However, some of these medicinal plants are classified as endangered due to their declining populations and increasing demand. This gap can be addressed by exploring plants that have been traditionally used by local people and tribal communities for centuries. A systematic approach involving literary verification, botanical authentication, pharmacognostical evaluation, ayurvedic characterization, physicochemical and pharmacological assessment, safety evaluation, and clinical validation can transform an undocumented drug into a scientifically validated medicinal resource. Such efforts may contribute to the expansion of ayurvedic materia medica, preservation of traditional knowledge, conservation of biodiversity, and development of reliable pharmacopoeial standards.

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