



## Chrono Therapeutic and Phytochemical Perspectives of *Puspayurveda*: A Classical -Modern Integrative Review- Based on *Pushpa Ayurveda* and *Bhavaprakasa Nighantu*

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**ABSTRACT:** *Puspayurveda* describes the therapeutic use of flowers through adornment, inhalation and sensory engagement, emphasizing specific periods (*Kala*) for wearing flowers to promote physical, mental and emotional well-being. *Pushpayurveda* had detailed the duration and time-specific benefits of floral usage, while *Bhavaprakasa Nighantu (Puspa Varga)* provides supportive pharmacological attributes. The present article offers an integrative analysis of selected medicinal flowers by correlating the Ayurvedic principle of *Gandha-Jnana* (perception of smell), examining its psychophysiological influence through sensory pathways and its role in *Indriya–Manasa* interaction. By evaluating certain effects may be attributable to *Prabhava* in co-relation with modern phytochemical profiles, volatility of constituents, analytical standardization methods, and contemporary nature-therapy concepts such as forest bathing with modern phytochemical profiles, volatility of constituents, analytical techniques for quantification and standardization, and contemporary nature-therapy concepts such as forest walking and forest bathing. The review highlights how volatile floral constituents acting through the olfactory pathway may justify the classical specification of wearing periods, thereby presenting *Puspayurveda* as an early model of aromachronotherapy. Along with brief review was also conducted on the traditional practice of wearing *Dasapushpa* during the month of *Karkidaka* in Kerala.

**KEYWORDS:** *Puspayurveda*, *Bhavaprakasa Nighantu*, *Dasapushpa*, *Puspabharana-Vidhi*, Chronotherapy, Volatile organic compounds, Forest Walk, Forest Bathing

### INTRODUCTION

Flowers have been integral to Ayurveda not merely as aesthetic elements but as potent therapeutic agents influencing the body and mind through fragrance (*Gandha*), visual appeal (*Rupa*), and subtle bioactive principles. *Puspayurveda* uniquely elaborates the wearing of flower (*Puspabharana-Vidhi*) with precise mention of time, duration and health benefits, reflecting an advanced understanding of chronotherapy. *Bhavaprakasa Nighantu*, through its *Puspa Varga*, further substantiates the therapeutic nature of flowers by describing their *Guṇa*, *karma* and disease-modulating actions. Integrating these classical insights with modern phytochemistry and analytical science provides a robust framework for understanding *Puspayurveda* in contemporary terms.

This article is based on *Pushpadharana Vidhi* explained in the third chapter *Swasthavrithe Pushpa Prayogam*- uses of flowers in health.<sup>1</sup>

## AYURVEDIC VIEW<sup>1</sup>

The various flowers described in *Pushpayurveda* and their period of wearing (*Pushpa Dharana Vidhi*)<sup>1</sup>

*Jati*-18 hours

*Nepali*-One hour and thirty-six minutes

*Utpala*-Three nights *Ketaki*-Five nights

*Satapatra* -Two nights *Mallika*-Half

night *Campaka*-Day and night

*Yuthika* - Forty- eight minutes

*Bakula* and *Madhavi* - One night

Along with this, it is mentioned as - *Sriparna* (*Gambhari*) should be put on till food is taken. *Mandara*, *Maruvaka*, *Damanaka* and *Patala* should be worn till their fragrance is present. *Jati* remains fragrant till two *muhurtas* (one hour thirty-six minutes) *Mallika* exhilarates double this period (three hours and twelve minutes, *Yuthika* stays for same period but with more intensity.

The fragrance of *Vanamlika* for one day, *Campaka* for three days and *Ketaki* for eight days.

The soft petals of *Ketaki* should be taken avoiding the sharp ends.

The flowers of *Jati*, *Nepali*, *Sevanti*, *Kutaja*, *Patala*, *Brhat Bakula*, *Campaka* and Rose should be worn with *Kasturi* while *Mandara*, *Maruvaka*, *Kumuda*, *Nilotpala* etc should be put on with camphor.

Flowers of *Mallika* should be worn before bath and those of *Jati* and *Bilva* after bath.

*Ketaki* should be put on after massage (*Abhyanga*)while *Utpala* may be worn always.

Flowers of *Jati*, *Kunda*, *Nepali*, *Bliva* and *Mallika* endowed with stamens should be put on head.

### a. Wearing of Flowers according to seasons<sup>1</sup>

Beautiful flowers of Rose (*Satapatri*) should be put on in Winter Season *Hemanta* and *Sisira*. *Ketaki* in spring (*Vasantha*), *Nepali* and *Jati* in summer (*Gharma*), *Patala* in rainy season (*Pravrit*) and *Campaka* in autumn (*Sarat*).

### b. Concept of *Dasapushpa* - Wearing in *Karkidaka*<sup>3</sup>

*Dasapuhpa Dharana*- *Dasa* means – Ten and *Pushpa* means -flowers

As a part of Kerala tradition, the practice of wearing *Dasapushpa* during the month of *Karkidaka* goes hand in hand with the concept of *Pushpa Dharana* described in *Pushpayurveda*. In both contexts, these sacred flowers are believed to act primarily through the principle of *Prabhava* in Ayurveda. This reflects not only their cultural and spiritual relevance but also emphasizes the therapeutic and protective significance attributed to flowers in the Ayurvedic system of health and well-being. The *Dasapuhpa Dharanana*, the tradition of wearing *Dasapushpam* during *Karkidaka* month is followed in Kerala, the ten auspicious flowers mentioned in *Dasapushpa* has proven<sup>3</sup> medicinal benefits and have ability to influence the mental and physical health of individuals. The period prescribed for wearing these flowers is *Karkidaka*, which falls under *Adana Kala*, a phase characterized by progressive depletion of *Sharira Bala* and *Vyadhiksamatva*. Most of the flowers mentioned have antimicrobial properties and thus help protect the body during this vulnerable seasonal period

The following are the details of these flowers<sup>3</sup>

Sl. No	Sanskrit Name	Latin Name	Family
1	<i>Bhadra</i>	<i>Aerva lanata</i>	Amaranthaceae
2	<i>Viparitha Lajjalu</i>	<i>Biophytum sensitivum</i>	Oxalidaceae
3	<i>Indravalli</i>	<i>Cardiospermum halicacabum</i>	Sapindaceae
4	<i>Musali</i>	<i>Curculigo orchioides</i>	Amaryllidaceae
5	<i>Durva</i>	<i>Cynodon dactylon</i>	Poaceae
6	<i>Bhringaraja</i>	<i>Eclipta alba</i>	Asteraceae
7	<i>Akhukarni</i>	<i>Emilia sonchifolia</i>	Asteraceae
8	<i>Harikrantha</i>	<i>Evolvulus alsinoides</i>	Convolvulaceae
9	<i>Lakshmana</i>	<i>Ipomoea sepiaria</i>	Convolvulaceae
	<i>Sahadevi</i>	<i>Vernonia cinerea</i>	Asteraceae

### c. Conceptual Basis: *Gandha-Janam, Prabhava and Indriya-Prabhava*

Among the five *Arthas* of the *Pancendriyas*, *Gandha* is perceived by the nose (*Ghranendriya*) and is directly connected to the mind (*Manas*) through subtle neural pathways. Ayurveda recognizes the calming and stabilizing influence of pleasant fragrance on mental states, explaining why flowers are described as *Hṛdya*, *Manas-Prasadana* and *Srama-hara*. The concept of *Prabhava* explains actions that cannot be fully accounted for by *Rasa-Guṇa-Virya-Vipaka* alone. In *Puṣpayurveda*, fragrance-mediated *Prabhava* plays a dominant role, particularly in psychosomatic balance.

## MODERN CORRELATION

### a. Phytochemical Constituents of Flowers and Their Health Impact

Flowers are rich sources of bioactive phytochemicals such as flavonoids, phenolic acids, terpenoids, carotenoids and volatile organic compounds (VOCs). These constituents exhibit significant antioxidant, anti-inflammatory, neuroprotective, immunomodulatory and anticancer activities. Volatile principles, especially monoterpenes and sesquiterpenes, are responsible for fragrance and are rapidly absorbed through the olfactory route, influencing the limbic system, hypothalamus and autonomic nervous system. This provides a scientific explanation for the rapid calming, mood-elevating and rejuvenating effects described in classical texts.

### b. Chronotherapeutic Correlation of Wearing Period and Chemical Activity

The periods prescribed for wearing flowers in *Puṣpayurveda* may be correlated with the modern aspects like volatility, stability and active time window of floral chemical entities. Highly volatile compounds exert rapid but short-lived effects, justifying specific times of adornment, while relatively stable phenolics and flavonoids provide sustained benefits. This reflects an intuitive understanding of pharmacokinetics

long before the advent of modern science.

### c. Modern Techniques for Quantification and Standardization

Advanced analytical techniques are practically utilized for the quantification, standardization and quality control of floral chemical constituents. These include High-Performance Thin Layer Chromatography (HPTLC), Gas Chromatography–Mass Spectrometry (GC–MS), headspace analysis for volatile compounds, enfleurage for delicate aromatic extraction, supercritical fluid extraction (SFE) for thermolabile constituents, nanoparticle-based delivery systems for enhanced bioavailability, and VOC profiling. These techniques can be used as it helps to determine the shelf life, stability and active duration of floral constituents, enabling correlation with the specific wearing periods mentioned in *Puspayurveda*.

### d. *Puspayurveda* and Nature Therapy: Forest Walk<sup>4</sup> and Forest Bathing<sup>5</sup>

The classical concept of floral therapy aligns closely with modern practices such as forest walking and forest bathing. Forest bathing, developed in Japan in the 1980's, involves immersive sensory engagement with the forest environment to reduce stress, lower cortisol and blood pressure, and improve mood. The therapeutic exposure to natural fragrances rich in phytoconstituents mirrors the *Puspayurveda* principle of continuous, gentle exposure to floral aromas. Thus, the specific selection and timing of flowers described in classical texts illuminate their capacity to calm the mind, rejuvenate the body and promote holistic health.

## MATERIALS AND METHODS

### Major Medicinal Flowers: Botanical name and Family Phytochemical and *Karma* and Pharmacological actions<sup>2,6,7</sup>

Sanskrit Name	Botanical Name	Family	Major Chemical Constituents	Volatile/ Non-volatile	Ayurvedic view	Pharmacological Actions
<i>Jati</i>	<i>Jasminum grandiflorum</i> . Linn	Oleaceae	Geraniol, Nerol, phenolics	Volatile	<i>Mana-prasadanam</i>	Anti-inflammatory
<i>Ketaki</i>	<i>Pandanus odoratissimus</i> . Linn	Pandanaceae	Phenyl ethyl alcohol, terpenoids	Volatile	<i>Nidra-jananam</i>	Aromatic calming
<i>Satapatri</i>	<i>Rosa Centifolia</i> Linn	Rosaceae	Mallic acid, Tannic acid	Volatile oils	<i>Hridyam</i>	Anti-inflammatory
<i>Mallika</i>	<i>Jasminum sambac</i> .Ait	Oleaceae	Linalool, benzyl acetate, flavonoids	Volatile	<i>Hrdyam</i>	Anxiolytic, Antidepressant
<i>Nilotpala</i>	<i>Nymphaea nouchali</i> Burm.f	Nymphaeaceae	Phenolics, glycosides	Non-volatile	<i>Pitta-Samaka</i>	Cooling, Sedative

<i>Campka</i>	<i>Michelia champaca</i> Linn	Magnoliaceae	Linalool, β-Caryophyllene	Volatile	<i>Vata- Pitta Samakam</i>	Stress- relieving
<i>Bakula</i>	<i>Mimusops elengi</i> .Linn	Sapotaceae	Tri-terpenoids, tannins	Non-volatile	<i>Hrdyam</i>	Mental tonic
<i>Yuthika</i>	<i>Jasminium auriculatum</i> Vahl.	Oleaceae	Terpenoid, Flavonoids	Volatile	<i>Pitta Samakam</i>	Anti- oxidant
<i>Nepali/ Nevai</i>	<i>Jasminum arborescens</i> Roxb	Oleaceae	Flavonoid Terpenoids	Volatile	<i>Tridosha haram</i>	Anti- oxidant

## RESULTS AND DISCUSSION

The dominance of volatile principles in many of these flowers supports their rapid psychotropic and neurophysiological effects through olfactory stimulation. The calming influence of fragrance corroborates the Ayurvedic understanding of *Gandha* as a powerful regulator of mind. Non-volatile constituents contribute to longer-term systemic benefits, complementing the immediate sensory effects. Thus, the selection of specific flowers and their prescribed wearing periods in *Puspayurveda* appear to be a rational, experience-based therapeutic strategy.

## CONCLUSION

*Puspayurveda*, as presented and supported by *Bhavaprakasa Nighantu* and *Dasapushpa Dharana in Karkidaka* represents a sophisticated integration of sensory therapy, chronotherapy and phytochemistry. Modern analytical techniques validate the presence and activity of bioactive floral constituents, while contemporary concepts such as forest bathing echo the same therapeutic principles. Understanding flowers through the dual lenses of Ayurveda and modern science opens new avenues for developing aromaceuticals, functional foods, cosmetics and holistic wellness interventions.

The concept of forest walking and forest bathing are having effects on health is achieved through to Prabhava concept

**Future scope** -The pharmacological potential and rationale behind the selection these specific flowers for dharna/ wearing need to be explored in depth.

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