

SPECIFICITY OF DIFFERENT PARTS OF PLANTS USED IN AYURVEDA - A REVIEW WITH SPECIAL REFERENCE TO NIGHANTUS

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ABSTRACT

Ayurveda majorly depends on plant for therapy. Different parts of plants are utilized in treatment. Interestingly different parts of same plants are useful in different diseases. This review focuses on the difference in action of parts of same plant. The *Nigantus* of *Ayurveda* provide information regarding the varied actions specific to the different parts of the plant. Kaiyadeva Nighantu needs a special mention as a pioneer in this regard. The Nighantu is extensively surveyed in this review to give a comprehensive list of drugs whose different parts are used. The difference in their *rasapanchaka*, phyto-constituents and utility are given importance in this article thus emphasizing on the multifaceted and to certain extent even diversified efficacy of these plants.

Keywords: Nighantu, Kaiyadeva, Dravyaguna, Nirryasa, Bark, Fruit, Unripe, Ripe

INTRODUCTION

Plants form an integral part of Ayurvedic treatment. Each and every plant is considered useful medicinally-*Nastimoolamanaoushadham*.¹ However there are certain rules and regulations guiding the herbal therapy practice. Though every plant has medicinal property, not every part of the plant can be used. The classical literature of Ayurveda specifically mentions the part to be used in different diseases. Authors like Kaiyadeva have extensively elaborated on the part to be used and gives properties and uses of different parts of the drug. Most of the formulations do specify the part of the each plant to be used. The different parts of the plant may possess different properties / potencies / effect on *doshas* /action against diseases and also phyto-constituents. It

becomes very important to study carefully the drug at these different levels and select the part. This review throws light upon the necessity and importance of the part of the plant used based on available classical and scientific literatures.

Classical references were surveyed from Nighantus and compiled here. The information regarding different parts of the same drug possessing different or varied action were collected and tabulated. The chemical constituents predominantly present in those particular parts of the plant were also collected from different published sources.

The difference in uses and properties of different parts of the drugs are enlisted in table 1:

DISCUSSION

Plants are treasure houses of therapeutic efficacy. The pharmaco-kinetics and Pharmaco-dynamics of a drug is explained in Ayurveda by means of *Rasapanchaka*. The action is attributed to *Rasapanchaka* along with the active principles present in the drug. However, different parts might possess different properties. Like, *Palashabeeja* is *Ushnaveerya* having *ksharaguna*, whereas *pushpa* possesses *sheetaveerya*.² By virtue of these different properties, the different parts of the drugs exhibit different actions.

Further the stage of the fruit or flower also is very important when collection is concerned. For instance, *Kapittha* in unripe stage is *Kashaya pradhana* whereas after it ripens becomes *amla*.³ Similarly, *Mulaka* when young is *tikta* (bitter), which turns *katu* (Pungent) as it grows bigger⁴. A small unripe mango fruit is *Kashaya pradhanaamla* (Predominantly astringent in taste followed by sourness), which turns *atiama* (very sour) as it grows bigger. Once ripe the fruit will have *Madhura rasa* (Sweet)⁵. The properties and actions of the different stages of the fruit will hence differ from each other. The presence of phyto-constituents in different parts of the plant varies depending on translocation. It has been emphasized that the part which possess maximum potency for the desired action has to be selected for therapeutic purpose. Ex: Generally the part used from *Shallaki* is *niryasa* but *Acharya Charaka* in *pureeshavirajaniya gana* specifies to use *shallakitvak* highlighting the importance of the part to be used⁶. The *kundur* (*Shallaki niryasa*) is mainly used as an analgesic and

muscle relaxant and not for its action on the *pureeshavahasrotas*. Whereas, the bark has an action of *pureeshavirajana*.

All the authors hence specifically mention the part that is to be used. Like, for *shodhana* purpose the part of *Kutaja* to be used is seed not bark, whereas bark is used as an anti-diarrhoeal. *Madakari guna* is present only in *majja* of *Vibhitaki*, whereas in general *Vibhitaki phala* is the used part. In case *shigru*, *moola* is *shukrala* where as *beeja* is *avrushya*⁷, *Amraphala* is *tvachya* whereas *majja* is *tvak dahakrut*⁸.

The authors have thus specifically mentioned the necessity of proper understanding and execution of collection of drugs. Collection specification for part used are clearly advocated in lexicons. The proper time has to be ensured before collection of the drug for all practical purposes. Scientifically the presence the maximum constituents are proved in particular part in particular season (*rutu*) in the following research works – Season wise collection of Udumbara tvak showed highest presence of Tannins in Sharad rutu⁹. Similarly, result of season wise collection of Varahikanda also showed results in accordance with classics¹⁰.

A cursory glance at the works like *Kaiyadeva Nighantu* provide an interesting overview of this aspect of plant collection, raise curiosity and pose the necessity for research. All authors have given importance to specificity of the part to be used. The pharmacognostic research identifying the presence of different presence of different phyto-constituents in different parts of the plant can be utilized to understand and validate the classical mentioning.

Table 1: Showing the difference in uses and properties of different parts of the drugs

Drug	Part used	Rasapanchaka/ Karma	Chemical constituent
Aragvadha <i>Cassia fistula</i> Caesalpiniaceae	Phala	Sramsana ¹¹	Anthraquinone
	Pushpa	Grahi ¹²	Kaempferol, alkaloids
Apamarga <i>Achyranthes aspera</i> Amaranthaceae	Panchanga:	Kaphavatahara- Ushna veerya ¹³	Achyranthine
	Phala:	Vatakara – Sheeta veerya ¹⁴	Saponin A,B,C,D
Amra <i>Mangifera indica</i> Anacardiaceae	Phalarasa:	Tvachya ⁸	Mangiferin, Isomangiferin
	Majja:	Tvak dahakrut ⁸	Steroids , phyticacid, phlobotannin
Bhallataka <i>Semecarpus anacardium</i> Anacardiaceae	Phala:	chedana, bhedana, arshogna, grahi, balya ¹⁵	
	Majja:	Vrushya, Brimhana, Dahashamaka ¹⁵	Bhilawanol, Anacardoside, catechol , semicaropol
	Asthi:	Pachaka, Medhya, Dipaka, krimgna ¹⁵	Bioflavonoids, bioflavanone β, Tetrahydrorobustaflavone
Bakuchi <i>Psoralea corylifolia</i> Papilionaceae	Bija:	Switragna, Rasayana, Medhya, Mehahara, Kandugna ¹⁶	
	Phala:	Keshya, Kasahara, Shotahara ¹⁶	
Gambari <i>Gmelina arborea</i> Verbenaceae	Moola:	Tikta kashaya madhura, Ushnaveerya, Tridosha ¹⁷	Gmelinol, β-sitosterol
	Pushpa:	shamaka madhura, Sheeta veerya ¹⁷	
	Phala:	vatakara Sheetaveerya, Hrudya ¹⁷	Tartaric acid
Patola <i>Tricosanthes dioica</i> Cucurbitaceae	Moola:	Virechana ¹⁸	Saponin, Triterpenoids
	Patra:	Rochana ¹⁸	Vitamin C, Vitamin A

Eranda <i>Ricinus communis</i> Euphorbiaceae	<i>Moola:</i>	<i>Vrushyavatahara</i> ¹⁹	Iron, magnesium, calcium, potassium
	<i>Patra:</i>	<i>Mutrakruchrahara</i> ¹⁹	Lysine, leucine, valine
	<i>Phala</i>	<i>Gulma, anilashoolahara</i> ¹⁹	Fixed oil, Uric acid, Recinine
	<i>Phalamajja</i>	<i>Vitbhedi</i> ¹⁹	
Kapitta <i>Limonia acidissima</i> Rutaceae	<i>Phala:</i>	<i>Visarpa, atisaranut</i> ²⁰	Citric acid, alkaloid, coumarin, umbelliferone
	<i>Patra:</i>	<i>Chardi atisaranut</i> ²⁰	Stigmasterol, psoralen, vitedin
	<i>Pushpa:</i>	<i>Visham hanti</i> ²⁰	
Kadali <i>Musa paradisiaca</i> Musaceae	<i>Kanda:</i>	<i>Somaroga hara, Seetaveerya</i> ²¹	Lignin, cellulose, holocellulose
	<i>Pushpa:</i>	<i>Ushna veerya, Grahi</i> ²¹	Polyphenol, hemicellulose
Kutaja <i>Holarrhena antidysenterica</i> Apocyanaceae	<i>Tvak:</i>	<i>Stambhaka, Kustagna, Krimigna</i> ²²	Conissine, Beta Sitosterol, Reholarrine
	<i>Bija:</i>	<i>Vamaka, Jwaragna</i> ²²	Drying Oil, Crystalline Glucoalkaloid, Kurchiline, Kurchiphyllamine
	<i>Pushpa:</i>	<i>Sulahara, Krimigna</i> ²²	
Kampillaka <i>Mallotus philippensis</i> Euphorbiaceae	<i>Phalaraja:</i>	<i>Rechana</i> ²³	rottlerin and isorottlerin
	<i>Saka</i>	<i>Grahi</i> ²³	
Kanchanara <i>Bahunia Variegata</i> Caesalpinaceae	<i>Tvak:</i>	<i>Gandamalahara, Vranahara</i> ²⁴	Hentricontane, Octacosanol
	<i>Pushpa:</i>	<i>Rochana, Pradaranashaka</i> ²⁴	β sitosterol, Stigma sterol
Nirgundi <i>Vitex negundo</i> Verbenaceae	<i>Moola :</i>	<i>Vatahara best in katigatavata</i> ²⁵	Hentriacontane, β -sitosterol, β -sitosterol acetate and stigmasterol.
	<i>Patra:</i>	<i>Medhya</i> ²⁵	aglycoside 2'-p-hydroxybenzoylmussaenosidicacid, two glycoside iridoids viz, nishindaside and negundoside
	<i>Pushpa:</i>	<i>Gulmapleeha hara</i> ²⁵	
Priyala <i>Bauchanania latifolia</i> Anacardiaceae	<i>Phala:</i>	<i>Kaphapittagna</i> ²⁶	Indole alkaloids, Quinidine
	<i>PhalaMajja:</i>	<i>Kaphavardhana</i> ²⁶	Spareien, Quinine

Palasha <i>Butea monosperma</i> Papilionaceae	<i>Bija:</i>	<i>Ushnaveerya,</i> <i>Krimigna, Deepana,</i> <i>Bagnasandhanakara</i> ²	Palasonine, Monospermoside
	<i>Pushpa:</i>	<i>sangrahi</i> <i>Sheetaveerya,</i> <i>Dahashamaka,</i> <i>Stambaka. Kustagna</i> ²	Triterpene, aureoles, Butin, Isobutin

CONCLUSION

The importance of collecting the specific part of the plant in prescribed seasons is being well established scientifically. The different parts of same plant possess different phyto-constituents. Hence nevertheless, there is wide scope for research to determine the actual phytochemical background behind these varied and occasionally contrasting actions in different parts of the same plant.

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