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Collection of Raw Drugs w.s.r. to *Raspanchak*

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ABSTRACT

The earliest documentation of medicinal uses of plants is found in *Rigaveda* which was written between 4500-1600 B.C. *Chikitsa Chatuspada* includes *Bhishak* (physician), *Dravya* (medicine), *Upasthata* (Nurse) and *Rogi*² (patient). In this *Dravya* (medicine) stands at second position just after physician highlighting its importance in treatment. The pharmacological, toxicological and clinical efficacies of drugs are attributed to the five qualities of the drug broadly classified as *Rasa* (taste), *Guna* (properties), *Virya* (potency), *Vipaka* (biotransformation) and *Prabhava* (special action). These five qualities are collectively known as *Rasapanchaka*. The time and place of collection of raw drugs have an important effect on the *Rasapanchaka* of the drug. Due to this *Acharyas* have given importance to the time and place of collection of drugs. The present article gives an insight about the principles of collection of raw drugs as per classics of *Ayurveda*.

KEYWORDS

Raw drugs, collection, Ayurveda, Rasapanchaka



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INTRODUCTION

Plants are associated with different facets of life such as cultural, medical, economical and spiritual. Since the dawn of human history, plants have been extensively used by human beings for maintenance of their health and for treatment of various diseases either in the form of food or medicine. The earliest documentation of medicinal uses of plants is found in *Rigveda* which was written between 4500-1600 B.C. In the course of evolution, long before, Jagdish Chandra Bose demonstrated the signs of life in plants by his scientific experiments, *Vedic* sages documented it in *Chandogya Upanishada* (6-11.1).

Acharyas used medicinal plants judiciously as food and medicine. Ayurveda is well known as the *Triskandha Ayurveda* which refers to three pillars of Ayurveda. It is for both healthy people and patients¹. One among these is *Aushadha* (medicine). Further *Acharyas* had stated that for successful treatment, coordination and co-existence of *Chikitsa Chatushpada* is extremely essential. The *Chikitsa Chatushpada* includes *Bhishak* (physician), *Dravya* (medicine), *Upasthata* (Nurse) and *Rogi*² (patient). In this *Dravya* (medicine) stands at second position just after physician highlighting its importance in treatment. Hence, a detailed knowledge

of *Dravyas* (medicine) and its properties takes a prime importance.

The pharmacological, toxicological and clinical efficacies of drugs are attributed to the five qualities of the drug broadly classified as *Rasa* (taste), *Guna* (properties), *Virya* (potency), *Vipaka* (biotransformation) and *Prabhava* (special action). These five qualities are collectively known as *Rasapanchaka*. The physical, chemical and physiological properties of *Dravyas* (drugs) are different to each other so as their *Rasapanchaka*. *Rasapanchaka* denotes the composition of drug and thus, becomes an important tool for collection and storage of raw drugs.

Importance of *Dravya* (drug)-

Acharyas had described the four factors for the treatment of the disease. *Dravya* (drug) stands on the second place in this series³. *Bhela* had placed the *Bheshaj* (medicine) on the first place in the sequence of *Chikitsa Chatushpada* highlighting importance of drug in treatment⁴. As per *Charak*, any means by which a physician proceeds to attain the state of equilibrium of *Dhatus* in the body is known as *Bheshaj*⁵. Drug is most important in the course of treatment because without a drug, a good physician is also helpless. *Charak* had assigned various synonyms to *Bheshaj*⁶. These are-



- *Karan-* any means used for treatment by a physician.
- *Chikitshit-* substance used in the process of treatment.
- *Vyadhikara-* which eradicates the diseases.
- *Pathya-* which is beneficial for channels of circulation of body or wholesome for patients.
- *Saadhan-* means of treatment
- *Aushadha-* eradicates diseases
- *Prayaschita-* discomfort or diseases are a result of sinful actions. It is the means to eliminate the discomfort or diseases.
- *Prashaman-* pacifies the vitiated *Doshas* or diseases.
- *Prakrati-Sthapan-* it establishes the normalcy in the body.
- *Hita-* beneficial to the body.

Acharyas also described the qualities of *Bheshaj* (drug). As per *Sushrut*, that *Bheshaj* should be used which grows in proper land. *Bheshaj* should be collected at proper time. Dose of *Bheshaj* should be low and palatable. *Bheshaj* should have proper smell, colour and taste. It should alleviate *Doshas* but should not cause malaise and complications. This type of *Bheshaj* should be administered at proper time⁷. *Charak* had preached quality standards for *Bheshaj*⁸. *Charak* had set some parameters on which a drug should stand clear. These are

- *Prakrati- Prakrati* means habit of the drug. Habit includes that the drug is tree, shrub, under shrub, herb or creeper. It may be of animal origin or mineral origin. The test drug should have the same habit as that of standard drug.
- *Guna-* Word *Guna* denotes all the qualities like *Rasa*, *Veerya*, *Vipaka*, *Prabhava* etc. (*Chakrapani*). It means that a drug should have all its qualities like taste, potency, bio-transformation, pharmacodynamics and pharmacokinetics etc. up to the standards.
- *Prabhav-* In the strict sense of *Dravyaguna*, *Prabhav* stands for that quality or action of drug which cannot be rationalized on the basis of *Rasa*, *Veerya*, *Vipaka* etc. Here, in context of *Dravya Pariksha*, *Prabhav* denotes that the drug should be full potent in executing its pharmacotherapeutic actions.
- *Ashmin Deshe Jatam:-* for proper growth and development, a drug requires a particular type of environment. So it should be assessed that the test drug has been cultivated or collected from its natural habitat.
- *Ashmin Ritu Eva Grahitam:-* Drug should be collected at its proper time. Drug collected at proper time will be full of its *Rasa*, *Guna*, *Virya* and *Vipaka*.
- *Evam Nihitam:-* Drug collected at proper time should be stored with



precautions. Otherwise, it may get contaminated with micro-organisms or insects and eventually drug will lose its properties.

- *Evam Upaskritam*:- Drug should be processed using standard procedures under strict hygienic conditions.
- *Anya Matra Cha Yuktam*:- Dose of medicine should be fixed.
- *Asmin Vyadheya Prayuktam*:- The drug has effectiveness in this particular disease. The mode of administration of drug is always peculiar in respect to the disease.

As evident from the above facts that *Acharyas* had included the place of procurement of drug in both the qualities as well as in the standards set for a drug. The time of collection of drug had also been included in the quality parameters of drug. This indicates that the place of procurement and time of collection of drug has an impact on the quality of drug. *Charak* had stated that a drug acquires potency by the impact of *Desha* (place of origin), *Kaal* (time), *Guna* (physical properties) and *Bhaajan*⁹ (container for storage).

Characteristics of *Dravya* (drug) that should be procured-

Charak had stated the characteristics that form the basis on which decision depends that this particular *Dravya* (drug) should be procured or not. As per *Charak*, the

drug which had grown in its natural season should be procured. The best time to collect a drug is when it attains full potency and has proper taste, smell etc. The drug which has not been adversely affected by sunlight, water, air, animals etc. should be collected. Before collection, the drug should be thoroughly examined by smell, colour, taste, touch etc. for proper identification. The drug should be collected from north direction¹⁰. *Sushrut* had also advised similar things but additionally he had advocated that the land or the soil in which drug had grown should also be examined before procurement¹¹.

Dr. Pushpangadan (Director NBRI, Lucknow) in his address at the Ayurveda 2000 at Chennai on 30th January 2000 was mentioning their work which proved that the roots etc. collected from east and north direction do possess more active principles than the parts collected from other directions. This may be because of earth's magnetic field which is strong in these two directions in India.

Importance of *Mahabhoota*-

Charak had quoted that all the *Dravya* (drugs) used in the treatment or intended to be used in the treatment are *Panchbhautika*¹² (composed of five basic elements). *Mahabhoota* are the structural and functional basis of all the substances. Not only the drugs even the human body is



composed of five *Mahabhoota*. The importance of *Mahabhoota* can be inferred from the fact that *Sushrut* had stated that only *Mahabhoota* are considered in the course of treatment¹³. In every substance although all the five *Mahabhoota* (*Aakash*, *Vayu*, *Agni*, *Jala* & *Prithvi*) are present but the *Mahbhoota* having predominance in that particular substance mainly manifests its properties and actions. The substance is designated by the name of *Mahabhoota* having predominance in that particular substance¹⁴. *Rasapanchak* is the manifestation of *Mahabhoota* in a *Dravya* (drug). The properties and actions of a drug are due to its *Mahabhoutik* predominance. Thus, during collection of drug *Mahabhoutik* predominance should be considered.

Collection of drugs as per season-

Acharyas had specified the season for the collection of particular part of the plant. The particular plant part should be collected in a specific season. *Charak* advised collection of plant parts as per season which is as follows¹⁵-

- Newly emerged leaves and branches- *Varsha Ritu* (rainy season) and *Basant Ritu* (spring)
- Roots (should be collected after shedding of leaves by plant)- *Grishma Ritu* (Summer) and *Shishir Ritu* (late winter)

- Bark, rhizome and latex- *Sharad Ritu* (Autumn)
 - *Saar* (heartwood)- *Hemant* (winter)
 - Fruits and flowers- as per season
- Sushrut* advised collection of plant parts as per season as follows¹⁶-
- Root- *Pravrata Ritu* (early rainy season)
 - Leaf- *Varsha Ritu* (rainy season)
 - Bark- *Sharad Ritu* (Autumn)
 - Latex- *Hemant Ritu* (winter)
 - Heartwood- *Basant Ritu* (spring)
 - Fruits- *Grishma Ritu* (summer)

The peculiar *Rasa* (taste) originates in a particular season as per the predominance of *Mahabhoot*. So if a plant of particular *Rasa* is to be collected then the plant should be collected in the specific season in which that particular *Rasa* (taste) originates. The predominance of *Mahabhoota* and *Rasa* as per season is shown in table¹⁷.

Table 1 Predominance of *Mahabhoota* and *Rasa* as per season

Season	<i>Mahabhoot</i>	<i>Rasa</i>
<i>Shishir</i>	<i>Vayu & Aakash</i>	<i>Tikta</i>
<i>Basant</i>	<i>Vayu & Prithvi</i>	<i>Kashaya</i>
<i>Grishma</i>	<i>Vayu & Agni</i>	<i>Katu</i>
<i>Varsha</i>	<i>Prithvi & Agni</i>	<i>Amla</i>
<i>Sharad</i>	<i>Jala & Agni</i>	<i>Lavana</i>
<i>Hemanta</i>	<i>Prithvi & Jala</i>	<i>Madhur</i>



Collection of *Dravya* on the basis of *guna*-

Each of the *Mahabhoota* imparts specific physical quality to the *Dravya* as per the basic qualities of the concerned *Mahabhoota*. As mentioned earlier, the predominance of *Mahabhoota* determines the basic physical qualities of a drug. If a plant of specific qualities is to be collected than it should from the land which has the predominance of same *Mahabhoota*. The drug collected from this type of land will have more potency. Table 2 shows the relation between type of *Dravya* and *Guna*.

Table 2 Type of *Dravya* and associated *Guna*

S. No.	Type of <i>Dravya</i>	<i>Guna</i>	Example
1	<i>Parthiva Dravya</i>	Guru, Khar, Kathina, Manda, Sthira, Vishad etc.	<i>Khadira</i> (Acacia catechu Willd.)
2	<i>Aapya Dravya</i>	Drav, Snigdha, Sheeta, Picchila etc.	<i>Kumari</i> (Aloe barbadensis Mill.)
3	<i>Aagneya Dravya</i>	Ushna, Tikshna, Sukshma, Vishad etc.	<i>Maricha</i> (Piper nigrum Linn.)
4	<i>Vayvaya Dravya</i>	Laghu, Ruksha, Khara, Vishad, Sukshma etc.	<i>Sirisha</i> (Albizia lebbbeck Benth.)
5	<i>Aakashiya Dravya</i>	Mridu, Laghua, Sukshma, Salakshna etc.	<i>Jatamansi</i> (Nardostachys jatamansi DC)

Table 3 *Virya* and other properties of drug

S. No.	<i>Dravya Virya</i>	<i>Ritu</i>	<i>Bhumi</i>	<i>Dravya Guna</i>	<i>Rasa</i>
1	<i>Saumya</i> (Sheeta)	<i>Saumya- Varsha, Hemanta, Shishira</i>	<i>Saumya</i>	<i>Atimadhura, Snigdha, Sheeta</i>	<i>Madhur, Tikta, Kashaya</i>
2	<i>Aagneya</i> (Ushna)	<i>Aagneya- Sharad, Vasanta, Grishma</i>	<i>Aagneya</i>	<i>Katu, Ruksha, Ushna</i>	<i>Amla, Lavana, Katu</i>

Acharya Sushrut also gave practical application of this concept of collection of *Dravya* as per the qualities. *Virechan* (purgative) *Dravya* (drugs) should be collected from soil which is predominant with *Jala* and *Prithavi Mahabhoota*. *Vaman* (emetics) *Dravya* should be collected from soils which possess the qualities of *Agni, Vayu & Aakash Mahabhoota*. *Ubhayabhagahara* (having both purgative and emetic action) *Dravya* are to be collected from soil having *Prithavi, Ambu, Agni, Vayu & Aakash Guna*. *Sanshaman Dravya* should be collected from soil which possesses *Aakash Guna*¹⁸.

Collection on the basis of *Virya*-

Acharya Sushrut put forth that because of *Saumya* (~watery) and *Aagneya* (igneous) nature of universe, *Saumya* plants should be collected in *Saumya* seasons while *Aagneya* plants should be collected in *Aagneya* seasons so that their properties are not affected¹⁹. Table-3 shows the relation of *Virya* and other properties of drug. *Sharangdhar* advocated the collection of *Aagneya* and *Saumya Dravya* from the specific regions. *Aagneya Dravya* should be collected from *Vindhya* region as these regions have ecological features which are *Aagneya*.



Hence, the *Aagneya Dravya* collected from here will be excellent. Similarly, *Saumya Dravya* is to be collected from *Himagiri* as the ecological condition is *Saumya*²⁰.

Acharya Charak had stated that *Himalya* is the best place for procurement of drug²¹.

Collection on the basis of *Karma* (pharmacological action)-

For every pharmacological action certain *Guna* (properties) are required which are the inherent qualities of particular *Mahabhoota*. This indicates that specific *Panchmahabhoutik* constitution of drug is required for specific pharmacological action. *Acharya Sushrut* advocated the collection of drugs from specific region as per their *Panchmahabhoutik* constitution for specific pharmacological action.

- *Virechan Dravya* (purgatives) should be procured from soil which is predominant with *Prithavi & Jala Mahabhoota*.
- *Vaman Dravya* (emetics) should be collected from the soil which possesses the qualities of *Agni, Vayu & Aakash Mahabhoota*.
- *Ubhayabghahara Dravya* (having both purgative and emetic action) to be collected from soil having *Prithavi, Jala, Agni, Vayu & Aakash Mahabhoota*.

- *Sanshamana Dravya* should be procured from soil having *Aakash Mahabhoota* qualities²².

DISCUSSION

The collection time of plant parts is also mentioned in botany.

- Leaves from the plants should be collected when the plant is very active, photosynthetic activity is maximum and the leaves contain maximum percentage of active constituents.
- Bark should be collected after 3-8 years of plant growth.
- To collect seeds fruits should be collected when they are ripe but before dehiscence on the plant. For *Eranda (Ricinus communis)* capsules are collected from plants when they begin to turn brown. These capsules are exposed to sun. After 3-4 days, capsules burst suddenly and seeds flung out violently.
- Fruits should be collected when ripe but still firm.
- Roots are collected only after growth. Usually collected during summer. Else, any underground part should be collected when the plants have borne fruits, shed seeds and aerial parts have started to wither. Reasons for the collection at this time are-
 1. High active chemical composition is seen when vegetable growth is ceased.



2. They are fully mature, developed and of good quality.

3. As plants have already shed seeds, crop continues in next season through natural regeneration.

- Sap is collected in the spring as it rises or as it falls in autumn²³.

These evidences show the scientific approach of *Acharyas* while mentioning the time of collection of raw drugs.

CONCLUSION

The concept of specific time and place of collection of raw drug ensures desired quality of raw drug. The place of procurement imparts specific qualities in the drug which are manifested as *Rasa Panchaka* of the drug. The time of drug collection ensures optimum efficacy of the drug. Thus, both *Guna* (properties) and *Karma* (actions) of the drug are affected by the place and time of drug collection. The modern parameters of drug collection should also evolve around *Ayurvedic* guidelines.



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