International Journal of Ayurveda and Pharmaceutical Chemistry

E ISSN 2350-0204
www.ijapc.com

Volume 7 Issue 1 2017

Int J Ayu Pharm Chem

REVIEW ARTICLE

www.ijapc.com

e-ISSN 2350-0204

An Insight into '*Charakokta Dravya-Pariksha Vidhi*' and its Applicability

Pooja S. Dabhade*

*Sumatibhai Shah Ayurved Mahavidyalaya, Malwadi, Hadapsar, Pune, MS, India

ABSTRACT

The following article deals with the concept of '*Dravya Pariksha Vidhi'* mentioned by *Acharya Charaka* in *Charak-Samhita Vimanasthana* 8/87. *Dravya pariksha vidhi plays an important* role in the field of *Dravyaguna* i.e., the science *of Dravya* –Drug which deals with the *Guna* (Properties) and *Karma* (Actions). It is basically the study methodology described regarding a new drug. In this work an attempt is made to understand the each every point mentioned under *Dravya* Pariksha *Vidhi* thoroughly and understand their importance in case of drug study. The biggest advantage of applying this method is that, we could find *Ayurvedic* attributes like *Rasapanchaka*, *gunas*,etc. for a totally new drug and thus, facilitate its use in *Ayurvedic* therapeutics. It was also observed that it is quiet similar to the Pharmacognostic study method for natural drug and thus, it can be concluded that, studying a new drug by combining both methods would be more beneficial for the acceptance of that drug.

KEYWORDS

Charak, Dravya Pariksha Vidhi, Pharmacognosy, new drug

Greentree Group

Received 25/04/17 Accepted 18/06/17 Published 10/07/17

INTRODUCTION

Ayurveda is one of the oldest existing healthcare-system. As described before, it is based upon certain principles which have not changed since, centuries/ since they have evolved and are even today retained firmly.

Ayurveda never restricted researchers and thus, it facilitated introduction of newer concepts and elements to the science. This is evident from the fact that, ancient *Acharyas* never limited the number of *Dravya*s. Acharya Sushruta has supported the researchers to search for plants in riverbeds, on the mountains, in the vicinity of big lakes and in jungles.

Acharyas of *Ayurveda* have allowed the skilful use of similar *Dravya*s which are not explained by them in case of non-availability of the one mentioned in the text.

According to *Acharya Charaka*, "Nothing in this world is devoid of medicinal properties." Thus, *Acharya Charaka's* view and guidelines (C.Vi.8/87) proved to be a source of light or the basic guideline for the later researchers, who studied new drugs.

Thus, later evolved Nighantus followed this and studied new drugs; and described them in their compendium. They also used them as therapeutic agents and also in various formulations.

Thus, many drugs from other healthcare systems or which were not found in India, were later incorporated in *Ayurveda*.

This has led to new additions. For example, *Yashtimadu*, *Hingu* were originally from Gulf region, *Dalchini* and Lanka were from Sri-Lanka, but we find their references as well as elaborate description in Classical texts of *Ayurveda*.

Ayurveda has an "Individualistic-approach" of treatment. So, an increased compendium facilitates physician in finding out the most suitable drug, for an individual.

Thus, following this tradition, we must find out such commonly used as well as a folk medicines, which do not have mention in *Ayurvedic Samhitas*.

Such time tested drugs, are needed to be studied by *Dravyaguna* researchers.

In *Ayurveda*, this can be attained with the help *Dravya Pariksha Vidhi* in *Vimansthana* of *Charaka-Samhita*.

Thus, this article aims at proper understanding of *Dravya Pariksha Vidhi* and its applicability in today's era.

AIMS & OBJECTIVES:

The study is carried out with an aim to review the Basic Concept of *Dravya Pariksha* Viidhi, try to understand it

thoroughly and find its applicability in practise.

MATERIALS

This study was carried out after searching various medical databases like PubMed, Google scholar, *Dhara*, etc. and classical texts like *Charaka Samhita, Sushrut Samhita* and also textbooks like *Dravyagun-vigyana* by different authors etc. related to the concept of '*Dravya Pariksha Vidhi*.'

Concept of *Dravya Pariksha Vidhi:*

As per the description in *Vimansthana* of *Charaka-Samhita*, *Acharya Charaka* has given guidelines for drug standardizations, which are as relevant in today's era too.

It indicates that a drug should be studied as follows[2]:

1) *Prakruti:* Name, natural order of drug and botanical morphology.

2) *Guna:* Physical-*Rasa, Veerya, Gurvadi Gunas* and chemical Properties.

3) *Prabhav:* Therapeutic actions.

4) *Desh :* Botanical distribution

5) *Rutu Gruhitam:* Time and method of collection.

6) *Nihit:* Method of preservation.

7) *Upaskrit:* *Sanskar*,Pharmaceutical processing for its preparations.

8) *Matra :* Dosage

9) *Vyadhi:* Various diseases in which drug can be therapeutically used.

10) *Evam Vidham Purushasya:* Clinical trials or in which person it is probably useful.

Now, we would further try to understand each point in details.

1) *Prakruti* of a drug:

It includes *Namarupa Vigyana* and nature of drug. Understanding the features of drug is essential as it informs us about the source of drug.

Ayurveda stressed to utilize the knowledge and experience regarding drug identification, of cowherds, hermits, huntsmen, forest dwellers etc.[1].

It helps in developing crude knowledge regarding identity of a drug and to ascertain it. It has reduced confusion regarding classification and identification of a drug especially in case of unknown or folklore medicine.

2) Guna:

*Guna*s explain the action of drug on the body. They may even help in identification of drug. These properties will explain the therapeutic actions of drug and also help in identification and standardization of drug. It includes *Rasa, Veerya, Vipaka, Gurvadi Gunas and Pancha-bhautikatwa* of the drug[4].

***A] Rasapanchaka* of the plant:**

The information regarding the qualities, properties and actions of the plants mentioned in *Ayurvedic* classical treatises and lexicons are recognised and documented by our *Acharyas*, and they are readily available for our reference. But the information of not much known drugs are to be worked out. The term *Rasa*panchaka refers to *Rasa*, *Guna*, *Veerya* and *Vipaka*.

(i) Determination of *Rasa:*

Rasa of a drug is gustatory appeal[4]. It is told by *Acharya Charaka* that *"Raso Nipate Dravyanam*". The taste perceived immediately on dropping the drug on tongue is its *Rasa*. To find the *Rasa* of the drug of study the ***Nipata* method** and **Taste threshold method** can be followed. The method has been described in short:

- ***Nipata* Method[5]:**

Powder of the drug is used in the experimental study to ascertain its *Rasa*. The study is conducted in volunteers who are able to identify the taste and express it.

Volunteers are requested to taste the powder after washing their mouth with distilled water. They are then requested to write down the taste they felt instantaneously and the taste felt after half a minute on a slip of paper.

The results are interpreted based on the *Rasa* perceived. The taste perceived in first half minute is considered as the *Pradhana Rasa* and that perceived after as Anu*rasa*.

- **Taste threshold method:**

It is the assessment of degree of variation of taste through taste threshold method. Dr. Shiv Charan Dhyani (Ex. Prof & H.O.D. of D.G.V. dept. Gujarat Ayurveda University, Jamnagar.) has worked on primary, comparative & superlative degrees of *Rasas* for eg. *Madhura –Madhuratara – Madhurtama* and has fixed taste thresholds. This method involves forming solution of drug by mixing 5 gm. Of drug in 50 ml. of water – cold water, hot water and boiling with water. Again tasting is done after specific repeated dilutions and threshold is counted by noting down the last reading of dilution where taste is perceived and is compared with the available data regarding Taste-Threshold scale of that specific *Rasa* and accordingly Taste-Threshold for the drug is specified[5].

(ii) Determination of *Gunas :*

The term Guna literally means the properties or qualities of any substance. But in *Ayurveda* it means physicochemical or pharmacological properties of the *Dravyas*[3-5]. Thus, they are either *Bhautik* (physical) or *Karmuk* (pharmacological) properties of a

Dravya. While considering *Guna*s of a *Dravya, Karmuk* Gunas are expected to be considered. The *Gunas* inherent in a *Dravya* can be inferred by their *Rasa*, applications and biological responses. They can be inferred also by its known Pharmacological actions.

(iii) Determination of *Vipaka:*

In Ayurveda, *Vipaka* is associated with the *Rasa* i.e. a fixed *Vipaka* is associated with corresponding *Rasa*. Thus, it can be assessed by the knowledge of *Rasa*[5].

Vipaka of a drug is inferred by its properties after it has undergone digestive and metabolic transformations[4].

Thus, *Vipaka* can also be assessed by its action produced on *Doshas, Dhatus* and *Malas*. It can also be assessed on the bases of the available literary information, regarding its properties and actions[5].

It would be based upon the *Trividha Vipaka Vada* of *Ayurveda*.

(iv) Determination of *Veerya:* *Veerya* of a drug can be understood according to endothermic and exothermic reaction method mentioned by Dr. S.C.Dhyani[5]. Assessment of *Veerya* is done by the Endothermic and Exothermic reaction in distilled water. 100 gm. of drug is added to 100ml.of distilled water. And, the reactions were noted for an hour. The results are concluded by the rise or fall in temperature. *Veerya* can also be assessed by *Anumana*, by its effect on Appetite, Sleep and Basic Metabolic Rate. But in this method, it is necessary to consider *Ashtavidha Veerya* mentioned by *Acharya Sushruta* as it would facilitate the understanding of *Veerya* more correctly. These 8 types of *Veerya* are as follows-*Guru, Snigdha, Mrudu, Sheeta, Laghu, Ruksha, Teekshna* and *Ushna*.

As it is shown in Table No.1, they are considered as the elaborate description of 2 types of *Veerya*.

Table 1 Classification of *Ashtavidha Veeryas*[5]

Sheeta	**Ushna**
Guru	Laghu
Snigdha	Ruksha
Mrudu	Teekshna

(v) Determination of *Prabhav:*

Prabhav is a unique action of a drug. It can be defined as an action of a *dravya* which we cannot attribute to any of its *Rasa-panchaka*. Such examples are very few and no test parameters are available for its assessment. It is applicable only in case of few drugs.

B] Determination of *Pancha-bhautikatwa* or *Bhautika* constitution:

In Sushruta *Samhita*, *Acharya Sushruta* has given a good hint regarding the identification of *Mahabhuta* dominance.

According to him assessment of dominant *Mahabhuta* can be done by two ways[6]:

(1) By identification of taste & its intensity i.e. *Asvadato* and

(2) By identification of perceivable *Guna-karmas* i.e. *Bhutagunadi*

Accordingly, an attempt was made and a calculation method was developed in the study, "A study of *Samskara* and its role in alteration of *Pancha-Bhautik* compostion of *Dravya*", - by Dr. Dilip Nalge- Jamnagar 2004.

In this method of calculation, percentage of *Mahabhuta* dominance, using the *Guna-karmas* (of *Parthivadi Dravya*s) mentioned by *Bruhat-trayee* and *Ashtanga-Hridaya*.

As all these four texts are considered as 'main texts' in the field of *Ayurveda* (*Bruhat-trayee*), these texts are only considered here. *Guna*-Karmas mentioned in texts are the maximum perceivable *Guna*-karmas of any *Dravya*. So these are more important regarding identification of *Mahabhuta* dominance. But this method is not rigid. It is flexible enough so that, one can make changes in it by including opinions of more number of *Ayurvedic* texts, which he feels important. Distribution of points also can be changed if one wants to give more importance to opinion of particular text, he can give more weightage to that text. As identification of *Mahabhuta* dominance is itself a vast topic and this could not be discussed thoroughly here, due to limitations of the study.

It needs number of separate research works to be carried out to develop parameters for assessment of *Mahabhuta* dominance.

The *Asvadato* or "taste with tongue" method carried out here, is again comparatively easy criterion to determine *Mahabhuta* dominance, as specific *Rasa*s are having dominance of specific *Mahabhutas*. But this has limitations, as this is only helpful in the case of *Samana pratyayarabdha Dravya*s, as the *Arambhaka Mahabhutas* of *Rasa* and *Dravya*-karmas are same in *Samana-pratyayarabdhi Dravya*s. So, by understanding taste only, one may become able to understand dominance of *Mahabhutas* in that *Dravya* also.

3) *Prabhav*: (Specific Action of Drug)

This *Prabhava* is diferrent from the *Prabhav* mentioned in *Rasa-Panchak*.

• *Prabhava* here, stands for Specific Action of a Drug.

• In modern terms, *Prabhav* is 'Pharmacodynamics' of a drug. i.e. effects of a drug on various organs, body systems are studied. It can also be inferred, on the basis of available literature references regarding the action of drug.

• According to *Ayurveda*, The actions of drug can be divided as,

a) Action on *Dosha*

b) Action on *Dhatu*

c) Action on *Mala*

d) Action on *Strotas*

It is mainly applicable for the drugs used internally.

4) *Desha*: (Habitat)

It means the Habitat of a plant[4]. The soil, air, temperature, rainfall, sun-light and altitude are the important factors for the growth and development of plant. Since, they vary from place to place, knowledge about the habitat of any drug is very important. Some plants are found in specific regions while some can be found everywhere. Even if the plant is available everywhere, its chemical constituents vary in amount, which is proved by many researches. According to Ayurveda, a drug should be collected from *Prashasta Desh.* Thus, study of ecological conditions play an important role in drug study.

5) *Rutau Gruhitam* (season and method collection) and 6) *Nihitam* (Method of Preservation)

This is time and method of collection of plant material. Drug should be collected, in *Prashasta Kala*[4]. Time is important factor as it imparts direct effect on potency of drug. In *Ayurveda*, *Prashasta Rutu* for drug collection i.e., time of collection and storage method are well described. Even modern science states that a standard quality drug can be obtained only if it is collected by Good Collection Practise.

Similarly, Good Storage Practice related guidelines must also be followed as it may affect the physical as well as chemical properties of a drug.

7) *Upaskrit*: (Pharmaceutical processing)

Many preparations can be made from single drug to make it more potent, preserved, palatable and clinically effective.[4] *Ayurveda* has mentioned many pharmaceutical preparations under *Bhaishajya-kalpana*.

Information about pharmaceutical preparations mentioned, related to the study drug can collected and an attempt could be made to consider its use in various *Ayurvedic-Kalpas*.

8) *Matra*:

This is fixing the dosage or Posology of a drug.[4] The general dosage can be acquired by literature sources. But in *Ayurveda*, it is fixed according to severity of disease, age, time, *Koshtha* and *Agni* of the patient.

9) *Vyadhi*: (Various diseases in which drug can be useful)

A single drug can be used in different diseases, symptoms at different places.[4]

Hence knowledge from different people in different places regarding its use should be compiled.

The applicability of the drug as a possible therapeutic agent can be decided according to its uses mentioned in literature sources studied. Some of its possible applications can also inferred according to its assessed *Rasapanchaka*.

10*) Evam Vidham Purushasya:*

(Clinical-trials or Person to whom it is to be administered):-

The results gained by applying above methods are said to be totally based upon *Anumana*, until we prove them.

For verification of these, it is needed that the drug should be studied in clinical trials, which would provide more valid base for the acceptance of a drug, as it is the best way to evaluate any drug's medicinal utility.

Thus, it is needed to be studied according to Ayurvedic perspective of clinical trials but not before verifying its safety profile.

Modern Concept of Pharmacognosy:

Pharmacognosy is the study of medicinal drugs derived from plants or other natural sources[7].

The American Society of Pharmacognosy defines Pharmacognosy as "the study of the physical, chemical, biochemical and biological properties of drugs, drug substances or potential drugs or drug substances of natural origin as well as the search for new drugs from natural sources[9]."

It is the study of medicinal uses of various naturally occurring drugs its history, sources, distribution, method of cultivation, active constituents, medicinal uses, identification test, preservation methods, substituents and adulterants[8].

Scheme for Pharmacognostic studies of a natural drug[10]:

- Official name, synonyms and vernacular terms.
- Biological source and family.
- Geographical source and habitat.
- History and introduction of crude drug.
- Cultivation, collection and processing of drug.
- Morphological or Macroscopic traits.
- Microscopic or histological studies.
- Chemical constituents & qualitative chemical tests.
- Pharmacological / Therapeutic actions.
- Commercial varieties, substitutes and adulterants.
- Quality control of crude drug.

As we can see, many of the above points mentioned in the scheme of Pharmacognostic study can be concluded on the base of mere literary information, but macroscopic, microscopic and qualitative

analyses as well as chemical analysis are needed to be done in order to understand or achieve proper standardisation of a drug.

From the above points, it is clear that Pharmacognostic study covers thorough information regarding a natural drug. Thus, this can be co-related with the *Dravya Pariksha Vidhi* in *Vimansthana* of Charaka-*Samhita*.

Applicability of *Dravya Pariksha Vidhi*

1. The study of any new drug by '*Dravya Pariksha Vidhi-Charak Samhita Vimansthana* 8/87', would facilitate its inclusion to the Ayurvedic compendium.
2. It is most applicable for the study of *Anukta Dravyas* i.e. unknown drugs which have no mention in Ayurvedic literature or folklore medicines. Thus, it thereby facilitates the applicability of the drug in Ayurvedic therapeutics.
3. When a drug is studied according to the '*Dravya Pariksha Vidhi*', it is studied according to the attributes of *Ayurveda*, thus, we can get a complete standard profile of the drug according to the Ayurvedic point of view.
4. It would facilitate the use of drug in Ayurvedic practise once its *Rasapanchaka*, *Gunas*, etc. are known.
5. *Ayurveda* has an 'Individualistic-approach' of treatment. So, an increased compendium facilitates physician in finding out the most suitable drug, for an individual.
6. Further, study would provide quality assurance and safe administration.

CONCLUSION

Thus, it can be concluded that if a drug is studied according to the "*Ayurvedic*-perspective" as well as by modern Pharmacognostic view, it would provide a more firm base for its acceptance in *Ayurveda* therapeutics.

REFERENCES

1. Vd. Tripathi Brahmananda, edited **"Charaka Samhita"**, Varanasi, published by Choukhamba Surbharati Prakashan; reprinted in 2005.(Cha. Su. 1/12, page- 55)
2. Vd. Tripathi Brahmananda, edited **"Charaka Samhita"**, Varanasi, published by Choukhamba Surbharati Prakashan; reprinted in 2005.(Cha. Vi. 8/ 87, page- 755)
3. Vd. Gogate V. M., **"Dravyagunavidnyan"**, Vaidyamitra prakshan, in 2008.(page 100-0115)
4. Dr. J.L.N. Shastri, M.D. (Ayu.) edited, **"Illustrated Dravyaguna Vigyana"**, Vol. 1; 3rd edition; Published by Chaukhamba Orientalia, 2008.
5. Dr. S.C. Dhyani, edited, **"Rasa-Panchaka"**, 3rd edition, Varanasi, published by Chaukhamba Orientalia, in 2008.
6. Vd. Shastri Ambikadatta, edited **"Sushruta Samhita"**, Varanasi, published by Choukhamba Prakashan; reprinted in 2009.(Su. Su. 46/ 331).
7. Kokate C. K., Purohit A. P., Gokhale S.B. edited Pharmacognosy, Vol I & II; 46th Edition; Published by Nirali Prakashan, in 2010.
8. www.**pharmacognosy**.com/about.htm
9. www.**pharmacognosy**.us
10. www.medicinalplants-**pharmacognosy**.com