



Understanding the contributions of *Charaka Samhita* in Research Methodology

R. S. Dhimdhime^{1*}, D. T. Kodape², K. B. Pawar³, D. V. Kulkarni⁴, N. B. Bhaladar⁵ and P. D. Dongre⁶

^{1,2,3,5}Department of Kriya Sharir, Government Ayurved College, Osmanabad, MS, India

⁴Department of Dravya Guna Vigyana, Government Ayurved College, Osmanabad, MS, India

⁶Department of Kayachikitsa, Government Ayurved College, Osmanabad, MS, India

Abstract

Research is an endeavour to discover new facts or correlation of old facts by scientific study of a subject. The science, through which scholars can ascertain the factors which are useful or harmful for the life including causative factors and those involved in the treatment of diseases is called *Ayurveda*. From ancient era, to get proper knowledge of science of *Ayurveda*, there was necessity of scientific methods of approach which could clarify unclear things so that knowledge becomes accepted all over world. Therefore, *Charakacharya* explained lot of things about ancient methods of scientific approach which can be correlated with the modern research methodology tools which have prime importance for any fact or statement that becomes theory. In *Charaka Samhita* *Charakacharya* has described characteristics of good researcher which can be correlated with modern research methodology. *Charakacharya* has given lot of contribution with respect to modern research methodology in *Vimanastana* as well as in *Sutrastana*. In *Ayurveda* there are many synonyms of research one of them is *Anusandhana* which means the study of cause and effect relationship between *Dravya*, *Guna* and *Karma* after several observations and through verifiable examinations arrival at final conclusion. The concepts of Pancha-avayava-vakya are five ancient steps for establishment of fact, which makes *Siddhanta* (theory). The critical scientific approach of *Ayurveda* is based upon knowledge of *Pramana* which can be considered as scientific tools of Research.

Keywords

Research Methodology, *Charaka Samhita*, *Anusandhana*



Greentree Group

Received 28/02/17 Accepted 10/04/17 Published 10/05/17



INTRODUCTION

Research is a careful investigation for facts, inquiry, probe or investigation. In the word research Re means again and again and search means to find out something. The process of research is when a person observes a thing, some phenomenon get established and then by collecting information or analysis of data a final conclusion is drawn at the end of result. The science through which scholars could ascertain the factors which are useful or harmful for the life including causative factors and those involved in treatment of diseases is called *Ayurveda*. *Charakacharya* has given lot of contribution with respect to modern research methodology in *Vimanastana* as well as in *Sutrastana*. However the *Acharyas* have said that the text might contain some points which might be *Avyakta* (Non clear), *Anukta* (Implicit), *Leshokta* (pointer / passing remarks) and *Sandhigdhartha* (raising doubts). So for the clearance of these things research methodology tools mentioned in the ancient science of *Ayurveda*. In *Ayurveda* there are the qualities of *Uttama Chikitsaka* (best physician) which also required for a good researcher are clearly mentioned in *Vimanastana* and *Sutrastana* of

Charakasamhita. In *Ayurveda* there are many synonyms of Research. *Acharya Priyavat Sharma* has explained the world *Anusandhana* which resembles the research in *ayurveda* as well as other synonyms are *Gaveshana*, *Anveshana*, *Paryeshana* and *Shodha.Pancha – Avayava- Vakya* are the five ancient steps for establishment of fact mentioned in *Charaka Samhita Vimanasthana* which are *Pratigya*, *Hetu*, *Drishtanta*, *Udaharana*, *Nigamana*. This is methodology adopted by ancient *Acharyas* to establish any principal or fact through correct validation by various examination and investigations. *Ayurveda* explained the concept of *Pramana* which can be considered as scientific method of research. *Aptopadesha*, *Pratyaksha*, *Anumana* and *Yukti* are the four types of *Pramana* can be considered as helpful tools in *Dashavidhapariksha* i.e for the diagnosis of the patient.

AIMS AND OBJECTIVES

1. To study concept of *Charaka Samhita* in relation to modern research methodology.
2. To understand contribution of *Charaka Samhita* in research methodology.



3. To correlate ancient research methods with modern concept of research methodology.

MATERIALS

The literary material related to present work has been collected from *Ayurvedic* texts especially from *Charaka Samhita*, and commentaries of *Charaka Samhita* etc. The above material is also collected from research works and research articles from a concerned subject. Review of literature, analyzing the collected matter and discussion has been made. The conclusion has been drawn as per analyzed matter.

CHARACTERISTICS OF GOOD RESEARCHER

In *Ayurveda* there are the qualities of *Uttama Chikitsaka* (best physician) which also required for a good researcher are clearly mentioned in *Vimanastana* and *Sutrastana* of *Charakasamhita*. In *Sutrastana Charaka* has explained *Vigya* (knowledge), *Vitarka* (Reasoning), *Vignyana* (scientific methodology), *Smruti* (memory), *Tatparta* (curiosity) and *Kriya* (practical application or treatment) are the main qualities of good researcher¹. He also mentioned some other qualities such as *Vigya* (complete Knowledge), *Mati* (pure

mind), *Karma Drushti* (Repeated observation), *Abhyas* (practical approach), *Sidhhi* (capability to get success), *Ashraya* (company of learned scholars)².

In *Vimanstana*, *Charaka* has explained different qualities of good researcher like *Paryavadatashrutata* (complete knowledge of scriptures), *Paridrushtakarmata* (practical knowledge of treatment procedures), *Dakshyam* (skillful), *Shoucham* (purity), *Jithastata* (success in treatment), *Upakaranavata* (equipments and medicines), *Sarvendriyopapannata* (integrity of senses), *Prakritigyata* (nature of disease and patient), *Pratipatigyata* (complications of disease and its management)³.

Similarly in modern research methodology there are same characteristics of good researcher. He should have the curiosity to find out something new, problem minded, should have specialized in the field of study, tolerance and patience, scientific outwork about the area and should be honest and devoted to his work.

SYNONYMS OF RESEARCH IN AYURVEDA⁴

Priyavat Sharma has given definition of Research in *Ayurvedic* point of view. He has explained the world *Anusandhana* which



resembles the research in *Ayurveda* as well as other synonyms are *Gaveshana*, *Anveshana*, *Paryeshana* and *Shodha*.

Anusandhana -*Anu* + *Sandhana*. *Anu* means to follow and *Sandhana* means *Samyaka Gyan* means appropriate knowledge. It means to follow appropriate knowledge. To link up interrupted ancient thoughts, and to read in between the lines is called as *Anusandhana*.

According to Priyavat Sharma, The study of cause and effect relationship between *Dravya*, *Guna* and *Karma* after several observations and through verifiable examinations arrival at final conclusion is called as *Anusandhana*.

Gaveshana – *Gobhi*(with the help of) + *Indriya* (all senses)+ *Aeshana* (to search). It means to search or to achieve with the help of all senses.

Anveshana– *Anu* + *Aeshana*. *Anu* means *Nirantara* or to continuous and *Aeshana* means to desire, so *Anveshana* means desire to search.

Paryeshana– *Pari* (from all dimensions) + *Aeshana* (to search), so *Paryeshana* means to search from all dimensions.

Shodha – *Shodha* is the process of revalidating the old facts on the basis of modern parameters.

Research can be described as activity to search a solution for improved designs of functioning.

PANCHA – AVAYAVA- VAKYA

These are the five ancient steps for establishment of fact mentioned in *Charaka Samhita Vimanasthana*. The five factors are *Pratigya*, *Hetu*, *Drishtanta*, *Udaharan*, *Nigamana*. This is

Methodology adopted by ancient *Acharyas* to establish any principal or fact through correct validation by various examination and investigations. The objective of investigation is to understand things in their correct form this is nothing but '*Pratipattidnyanam*'.

1. *Pratigya* – (Proposition / Hypothesis)

Pratigya is the statement of problem or what is to be proved is called as '*Pratigya*'⁵. That means first there is proposition or Hypothesis and then establishment because we cannot establish in absence of proposition. *Pratigya* includes *Sthapana* (consolidation). '*Pashchyat Sthapana*' means confirmation or establishment of hypothesis⁶. That means establishment of that same proposition firmly on the basis of *Hetu* (reason), *Drishtanta* (example), *Upanaya* (correlation) and *Nigamana* (conclusion).



2. *Hetu* – (Logical reason)

Hetu means cause of knowledge. *Hetu and Drishtanta* plays important role for arriving the conclusion. While giving reason or possible cause to explain any fact, means and methods of investigation i.e. *Pratyaksha* (direct observation), *Anumana* (Inference), *Aptopadesha* (Traditional knowledge), *Upamana* (Smile) etc. All these *Pramanas* help to verify & validate that reasons⁷.

3. *Drishtanta / Udaharana* – (Example / Instance)

Example or illustrations support the validity of statement. It provides better understanding of fact to scholars as well as to stupid⁸. It presents resemblance or image of the thing to be proved. Example – fire is hot or sky is eternal⁹ etc.

4. *Upanaya*– (Correlation / comparison)

Correlation as sky is uncreated and is eternal so is sky¹⁰. Comparison or correlation help to illustrate the problem and gives logical sequence to previous steps. Investigation or inquiry means *Jidnyasa* or *Pariksha*¹¹, which is urge of researcher for acquiring knowledge. Investigation process is *Vyavasaya* or *Nischaya*¹².

5. *Nigamana*– (Conclusion)

Conclusion – Self is eternal¹³.

Nigamana means through logical sequence with example & correlation, conclusion is drawn from the results of such experiments or observations. Conclusion validates *Pratidnya*. Final conclusion is result of investigation, positive decision is *Vyavasaya*¹⁴ or confirmation of hypothesis i.e. acceptance of problem.

Negative decision is *Pratigyahani*¹⁵ i.e. null hypothesis means withdrawal of problem. *Pratisthapana* means counter establishment is giving a contrary meaning to the opponent's proposition¹⁶. Faults in null hypothesis is *Upalambha*¹⁷. Faulty reason is *Ahetu*¹⁸ or *Hetwabhasa*. End result without fault or Lacuna or Bias becomes theory or fact established by above process is *Sidhhanta*.

Siddhanta (theory) is the conclusion which is an establishment by scientists after testing in several ways of investigations and on proving it with logical reasoning. Conclusion drawn from the results of such experiments are applied to whole population i.e. generalization¹⁹.

Examination by observation of positive or negative correlation of things on limited number of representiveness of a group of population.



In this way a hypothesis is logically presented & firmly established or rejected with the help of *Panchavayava Vakya*, *Ayurveda* has already accepted this way of establishment of any fact from *Nyayavaisheshik* Philosophy. The same methodology is carried out in modern research methods. i.e. to establish any fact firstly statement of Hypothesis (*Pratigya*), Plan of work, collection of data (example / instance), assessment of observations of results (*Upanaya*) using statistical tools & 95% confidence limit & then conclude the fact (*Nigamana*)

To conclude comparison of *Ayurvedic* & contemporary methods of research, it can be said that research approach, research attitude & principals of research are same. There is only difference in the implantation of research methods.

CONCEPT OF PRAMANA IN AYURVEDA

In *Ayurveda*, concept of *Pramana* can be considered as scientific method of research. *Pramana* are the tools which helpful in *Dashavidhpariksha* i.e for the diagnosis of the patient. By knowing necessity of the *Pramana* to go through entire basic methodology in *Ayurveda Charakacharya*

accepted *Pramanas*. He stated that '*Pariksha*' means scientific investigation²⁰

According to *Charaka Samhita* things are established or not established or going to proved can be investigated by four *Pramana* mentioned in *Sutrasthana*.

- 1) ***Aptopadesha*** (Authoritative Statement)
- 2) ***Pratyaksha***(Direct Perception)
- 3) ***Anumana***(Inference)
- 4) ***Yukti*** (Rational or Logical Reasoning)²¹

Among all these *Pramana*, *Aptopadesha* called as primary source of information about *Ayurveda* and other science. Those already having basic information about any field of science remaining two *Pratyaksha* and *Anumana* are sufficient²². That means *Aptopadesha* comes first when establishing any fact or statement.

1. ***Aptopadesha Pramana*** (Authoritative Statement)

Apta means whose knowledge is devoid of doubts and correct²³. The knowledge comes from *Apta* is free from defects of *Rajas* and *Tamas* is known as *Aptopadesha Pramana*²⁴. In *Ayurveda Charakacharya* explained 44 methods of debate (*Vadamarga*)²⁵ which are evident from



concept of *Siddhanta* or Theory. *Siddhanta* is of four types.

- a) *Sarvatantra Siddhanta* (common to all branches of science)
- b) *Pratitantra Siddhanta* (specific to given branch of science)
- c) *Adhikarana Siddhanta* (truth value in given problem)
- d) *Abhyupagam Siddanta* (hypothesis which going to be proved)²⁶

2. *Pratyaksha Pramana* (Direct perception)

In *Ayurveda*, *Pratyaksha Pramana* considered as most reliable. The information or knowledge comes from as a result of soul, senses, mind & object is known as as *Pratyaksha*^{27& 28}. *Acharya Characka* stated that to get entire knowledge of disease primarily three *Pramanas* are important i.e. *Aptopadesha*, *Pratyaksha*, *Anumana*²⁹. *Pratyaksha Pramana* except *Rasa* (from tongue) other senses *Shabda*(Ear), *Sparsha*(Skin), *Rupa*(Eye), *Gandha*(Nose) can be perceived directly. Therefore *Pratyaksha Pramana* helps in *Dashavidha Pariksha* for the diagnosis of the patient³⁰.

In Research Methodology also first step of data collection is done by observation, interview, questionnaire, experiments, surveys, records which comes under

Pratyaksha Pramana. But nowadays there are limitations of direct perceptions which are overcomes by modern equipments and tools.

3. *Anumana Pramana* (Inference)

Interfering knowledge of unknown things from known things comes under *Anumana Pramana*³¹. *Anumana* includes indirect knowledge based on memory or reasoning³². *Anumana* has two types i.e.i) *Swarthanumana* (self inference)- knowledge of inference to own mind³³.

ii) *Parathanumana* (demonstrative inference)- inferential knowledge can be demonstrated to others. This can be correlated with Report writing in research methodology.

Retrospective study (effects relates to past), Prospective study or Cohort study (cause relates to future) and Cross sectional study are depending upon inference only and this comes under *Anumana Pramana*.

4. *Yukti Pramana* (Logical Reasoning)

The knowledge which formed by logically depending numerous factors, their combination and correlations is called as *Yukti* (Rationale or logical reasoning). It is true in three times & also useful in achieving 3 objects which are *Dharma*, *Artha*, *Kama*³⁴. Establishment of knowledge formed



by *Yukti Pramana* is specialty of *Charaka Samhita*. In *Ayurveda* physician not only required the knowledge of drugs or medicine but also the *Avastha* (status) of disease according to *Dosha*, *Dhatu*, *Mala* and *Agni* in particular person should properly examined which becomes easy with help of *Yukti Pramana*³⁵. Therefore treatment according *Yukti Pramana* makes the physician more successful³⁶.

DISCUSSION

According to *Ayurveda*, In the world body is vehicle for achievement of the four fold objectives of human life namely *Dharma* (religious virtue), *Artha* (wealth and Object of senses), *Kama* (satisfaction of the worldly desires) and *Moksha* (salvation). This body is controlled by *Ayuh* (elan vital). Diseases bring about morbidity in this *Ayuh* so that to prevent also to cure these diseases treatment is necessary. For ultimate success in treatment of patient the basic principal of *Ayurveda* should be known properly these comes under characteristics of good physician or that can be also called as good researcher. One should know the journey from proposition of statement i. e. hypothesis to the conclusion how it comes finally then one can come to know the

specific and appropriate treatment of disease so here concept of *Pancha-avayava- vakya* makes the perfection. For better understanding of stages and diagnosis of diseases as well as examination of patient the knowledge of *Pramana* is necessary according to *Ayurveda*.

CONCLUSION

Research is a journey from idea to phenomenon which finally turns into the theory. According to *Ayurveda* in *Charaka Samhita*, *Charakacharya* has given lot of contribution with respect to modern research methodology in *Vimanastana* as well as in *Sutrastana*. *Anusandhana* is the term used for Research methodology in *Ayurveda*. *Acharya Charaka* has explained the concept of *Pancha-avayava-vakya* to establish any principal or fact through correct validation by various examination and investigations. The critical scientific approach of *Ayurveda* is based upon knowledge of *Pramana* which can be considered as scientific tools of Research. This study shows that from ancient era principals of *Ayurveda* are not imaginary or arbitrary because it accepts scientific method which follows steps in modern research methodology.



REFERENCES

1. Bramhanand Tripathi, Charaka Samhita (Hindi translation), Varanasi: Chaukhamba Surbharti Prakashan, Reprinted 2010, Vol 1, Cha. Su. 10/21, p.214.
2. Bramhanand Tripathi, Charak Samhita (Hindi translation), Varanasi: Chaukhamba Surbharti Prakashan, Reprinted 2010, Vol 1, Cha. Su. 10/22, p.214.
3. Bramhanand Tripathi, Charaka Samhita (Hindi translation), Varanasi: Chaukhamba Surbharti Prakashan, Reprinted 2010, Vol 1, Cha. Vi. 08 /86, p.755.
4. Dr. Bilal Vani and Dr. Shaheen Mir, Basics Of Research Methodology and Medical Statistics, Jaipur : Ayurveda Sanskrit Hindi Pustak Bhandar, 2016, p. 5.
5. Bramhanand Tripathi, Charaka Samhita (Hindi translation), Varanasi: Chaukhamba Surbharti Prakashan, Reprinted 2010, Vol 1, Cha. Vi. 08 /30, p.737.
6. Bramhanand Tripathi, Charaka Samhita (Hindi translation), Varanasi: Chaukhamba Surbharti Prakashan, Reprinted 2010, Vol 1, Cha. Vi. 08 /31, p.737.
7. Bramhanand Tripathi, Charaka Samhita (Hindi translation), Varanasi: Chaukhamba Surbharti Prakashan, Reprinted 2010, Vol 1, Cha. Vi. 08 /33, p.738.
8. Bramhanand Tripathi, Charaka Samhita (Hindi translation), Varanasi: Chaukhamba Surbharti Prakashan, Reprinted 2010, Vol 1, Cha. Vi. 08 /34, p.738.
9. Bramhanand Tripathi, Charaka Samhita (Hindi translation), Varanasi: Chaukhamba Surbharti Prakashan, Reprinted 2010, Vol 1, Cha. Vi. 08 /31, p.737.
10. Bramhanand Tripathi, Charaka Samhita (Hindi translation), Varanasi: Chaukhamba Surbharti Prakashan, Reprinted 2010, Vol 1, Cha. Vi. 08 /31-32, p.737-738.
11. Bramhanand Tripathi, Charak Samhita (Hindi translation), Varanasi: Chaukhamba Surbharti Prakashan, Reprinted 2010, Vol 1, Cha. Vi. 08 /46, p.742.
12. Bramhanand Tripathi, Charaka Samhita (Hindi translation), Varanasi: Chaukhamba Surbharti Prakashan, Reprinted 2010, Vol 1, Cha. Vi. 08 /47, p.742.
13. Bramhanand Tripathi, Charaka Samhita (Hindi translation), Varanasi: Chaukhamba Surbharti Prakashan, Reprinted 2010, Vol 1, Cha. Vi. 08 /31-32, p.737- 738.
14. Bramhanand Tripathi, Charaka Samhita (Hindi translation), Varanasi: Chaukhamba Surbharti Prakashan, Reprinted 2010, Vol 1, Cha. Vi. 08 /47, p.742.



15. Bramhanand Tripathi, Charaka Samhita (Hindi translation), Varanasi: Chaukhamba Surbharti Prakashan, Reprinted 2010, Vol 1, Cha. Vi. 08 /61, p.748.
16. Bramhanand Tripathi, Charaka Samhita (Hindi translation), Varanasi: Chaukhamba Surbharti Prakashan, Reprinted 2010, Vol 1, Cha. Vi. 08 /32, p.738.
17. Bramhanand Tripathi, Charaka Samhita (Hindi translation), Varanasi: Chaukhamba Surbharti Prakashan, Reprinted 2010, Vol 1, Cha. Vi. 08 /59, p.748.
18. Bramhanand Tripathi, Charaka Samhita (Hindi translation), Varanasi: Chaukhamba Surbharti Prakashan, Reprinted 2010, Vol 1, Cha. Vi. 08 /57, p.747.
19. Bramhanand Tripathi, Charaka Samhita (Hindi translation), Varanasi: Chaukhamba Surbharti Prakashan, Reprinted 2010, Vol 1, Cha. Vi. 08 /37, p.739.
20. Yadavaji Trikamaji, Ayurveda Dipika commentary of Charaka Samhita, Varanasi: Choukhamba Surbharati Prakashan, Reprinted 2005, Cha. Su. 11/17, p. 70.
21. Bramhanand Tripathi, Charaka Samhita (Hindi translation), Varanasi: Chaukhamba Surbharti Prakashan, Reprinted 2010, Vol 1, Cha. Vi. 11/17, p.230.
22. Bramhanand Tripathi, Charaka Samhita (Hindi translation), Varanasi: Chaukhamba Surbharti Prakashan, Reprinted 2010, Vol 1, Cha. Vi. 04 /05, p.691.
23. Bramhanand Tripathi, Charaka Samhita (Hindi translation), Varanasi: Chaukhamba Surbharti Prakashan, Reprinted 2010, Vol 1, Cha. Vi. 04 /04, p..690.
24. Bramhanand Tripathi, Charaka Samhita (Hindi translation), Varanasi: Chaukhamba Surbharti Prakashan, Reprinted 2010, Vol 1, Cha. Su. 11/18, p.230.
25. Bramhanand Tripathi, Charaka Samhita (Hindi translation), Varanasi: Chaukhamba Surbharti Prakashan, Reprinted 2010, Vol 1, Cha. Vi. 08/27, p.736.
26. Bramhanand Tripathi, Charaka Samhita (Hindi translation), Varanasi: Chaukhamba Surbharti Prakashan, Reprinted 2010, Vol 1, Cha. Vi. 08 /37, p.739.
27. Bramhanand Tripathi, Charaka Samhita (Hindi translation), Varanasi :Chaukhamba Surbharti Prakashan, Reprinted 2010, Vol 1, Cha. Su. 11 /20, p.231.
28. Bramhanand Tripathi, Charaka Samhita (Hindi translation), Varanasi :Chaukhamba Surbharti Prakashan, Rerinted 2010, Vol 1, Cha. Vi. 04 /04, p..690.
29. Bramhanand Tripathi, Charaka Samhita (Hindi translation), Varanasi :Chaukhamba



- Surbharti Prakashan, Reprinted 2010, Vol 1, Cha. Vi. 04 /04, p.690.
30. Bramhanand Tripathi, Charaka Samhita (Hindi translation), Varanasi :Chaukhamba Surbharti Prakashan, Reprinted 2010, Vol 1, Cha. Vi. 04 /07, p.692.
31. Bramhanand Tripathi, Charaka Samhita (Hindi translation), Varanasi :Chaukhamba Surbharti Prakashan, Reprinted 2010, Vol 1, Cha. Su. 11 /21, p.231.
32. Bramhanand Tripathi, Charaka Samhita (Hindi translation), Varanasi :Chaukhamba Surbharti Prakashan, Reprinted 2010, Vol 1, Cha. Vi. 04 /04, p.690.
33. Tarka Sangraha by Annam Bhatta, Verse no. 39
34. Bramhanand Tripathi, Charaka Samhita (Hindi translation), Varanasi :Chaukhamba Surbharti Prakashan, Reprinted 2010, Vol 1, Cha. Su. 11 /25, p.232.
35. Yadavaji Trikamaji, Ayurveda Dipika commentary of Charaka Samhita, Varanasi : Choukhamba Surbharati Prakashan, Reprinted 2005, Cha. Su. 26/31, p.141.
36. Bramhanand Tripathi, Charaka Samhita (Hindi translation), Varanasi :Chaukhamba Surbharti Prakashan, Reprinted 2010, Vol 1, Cha. Su. 02 /16, p.53.