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PRAMANA VIDNYANA - AN ANCIENT METHOD OF RESEARCH W. S. R. T. CHARAKA SAMHITA

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ABSTRACT

Research can be considered as journey from idea (which should be novel) to hypothesis (systematic formulation of an idea/ research problem) & to thesis (valid conclusions) finally. In Ayurveda; Pramana Vidnyana can be considered as scientific tools of research. These Pramanas are not only useful in Roga (Disease) & Rogi (Patient) Pariksha (examination) but also evidence of the critical scientific approach of Ayurveda. To gain clear & entire knowledge of science of Ayurveda, it was necessary to search for scientific devices or methods of approach. This necessity has prompted Charakacharya to adopt Pramanas. In Ayurveda, Pramanas are called as Pariksha, meaning scientific investigation. Pramana vidnyana can be considered as scientific tools of research. Pramana, which can be considered as one of the ancient methods of research is of utmost importance in developing research methodology in Ayurveda.

According to Aacharya Charaka, things are either existent or non-existent, & they can be investigated by four Pramana; viz.

a) Aptopadesha (Authoritative statement)
b) Pratyaksha (Direct Perception).
c) Anumana (Inference)
d) Yukti (Rationale – logical reasoning)

Aptopadesha, Pratyaksha, Anumana & Yukti Pramana are very much useful at all steps of research such as planning, operation & reporting. Pramana vidnyana proves that Ayurveda accepts the scientific method in search of truth (based on logical reasoning) & not the arbitrary or unscientific method. Thus, these Pramanas can be considered as ancient methods of research which are essential in development of research methodology of ancient medical science of India, i. e. Ayurveda.

KEYWORDS: Pramana, Research, Aptopadesha, Pratyaksha, Anumana, Yukti.

INTRODUCTION

Research is a common term refers to a search for knowledge. Research is a structured enquiry that utilizes acceptable scientific methodology to solve problems & creates a new knowledge that is generally applicable. In Ayurveda; Pramana Vidnyana can be considered as scientific tools of research. These Pramanas are not only useful in Roga (Disease) & Rogi (Patient) Pariksha (examination) but also evidence of the critical scientific approach of Ayurveda. Valid or correct knowledge is called as Prama & the means to acquire this knowledge is called as Pramana.[1]

Prama can be considered as knowledge of science which has already been explored by various scientific methods. Like any other branch of knowledge, Ayurveda may need to obtain new evidence from time to time for its advancement. The critical scientific approach of Ayurveda is evident from its Pramana Vidnyana. According to Dr. R. H. Singh; a new approach should be adopted to research Ayurveda as a system of science & therapy, specifically within the framework of principles & philosophy of Ayurveda. This statement gives direction to develop research methodology of our own science by making use of principles & philosophy of Ayurveda.[2]

Pramana, which can be considered as one of the ancient methods of research is of utmost importance in developing research methodology in Ayurveda. The valid knowledge can be achieved by Pramana.[3]

Charakacharya has used the word "Pariksha" for "Pramana."[4]
Pariksha is a Pramana by which the objects are rightly known. Pariksha is means while Prama is the result, hence, in spite of being synonymous, "Pariksha" emphasizes on means while "Pramana" on the result. Pramana is a way in which we come to know about anything truly & objectively. Pramana are scientific methods to acquire valid knowledge.

According to Charakacharya, things are either existent or non-existent, & they can be investigated by four Pramana; viz.

a. Aptopadesha (Authoritative statement)
b. Pratyaksha (Direct Perception).
c. Anumana (Inference)
d. Yukti (Rationale – logical reasoning)[5]

Charaka has also mentioned that the knowledge of these Pramana; i.e.; Aptopadesha, Pratyaksha & Anumana is essential for proper knowledge of disease.[6]

AIMS AND OBJECTIVES

1. To correlate the Charakokta Pramana with modern research methods.
2. To establish utility of Pramana as a research tool in Ayurvedic research.
3. To review literature regarding Pramana Vidnyana & Research Methodology.

CONCEPTUAL STUDY AND DISCUSSIONS

Among all Pramana; first of all existing knowledge of science should be acquired by Aptopadesha & afterwards examinations to be carried out by Pratyaksha & Anumana. Aptopadesha is considered as the primary one as it forms the first source of information about Ayurveda or any other science. As it is said; 'Our eyes can't see what our mind doesn't know', For those who already have basic information about the science, the remaining two (Pratyaksha & Anumana) are stated to be sufficient.[7] Aptopadesha forms a firm basis for all theoretical knowledge in all respects of anything knowable in this universe. Thus, Aptopadesha becomes the first means to acquire knowledge.[8]

Aptopadesha Pramana (Authoritative Statement)

Apta means learned, the precept of learned, are free from defects of rajas & tamas gunas is known as 'Aptopadesha' (Authoritative Statement) which is regarded as Pramana.[9]

Authoritative statement is the precept of the apta (credible persons). Apta are those who possess knowledge devoid of doubt, indirect & partial acquisition, attachment& aversion.[10] Thus the persons endowed u with knowledge & experience, devoid of attachment & aversion are apta, their statement is Pramana. Apta, who are free from defects of rajas & tamas, speak always truth & so undoubtedly can be considered as the source of valid knowledge. The words or works of such persons form Aptopadesha. This is true even today. Text books of great personalities in their respective fields are quoted for authoritative knowledge.

One of the qualities of a researcher is that he should acquire existing knowledge & training in physical & mental skills necessary to do the activities implied in research. The existing knowledge of science can be acquired through Aptopadesha or authoritative statement.

According to Sushrutacharya; The drugs whose mode of action is indisputable & inexplicable & which are well-known by their usage should be used by the intelligent physician on the basis of authoritative traditional scriptures. The drugs, properties & actions of which are evident & which are well-known by their nature, need not be tested for their mode of action & causation by the wise physician.[11]

Acharya Vagbhata is also of the same opinion. He says Since information described in the text is approved by the ancient scriptures & since benefits are perceptible, these should be administered without discussions.[12] From these quotations; one should not get the impression that ayurveda has been evidence conscious. The evidence – base of contemporary Ayurveda is conceived in several forms including.

1) Scriptural evidence
2) Empirical evidence (based on experience)
3) Long standing traditional use & its mass acceptance.

The search for facts may be made through either.

a) Arbitrary (or unscientific) method
b) Scientific method

Arbitrary method of seeking answers to questions is based on imagination, opinion, blind belief or impression.[13] From the above quotations of Sushruta & Vagbhata, one may get impression that knowledge of science of Ayurveda is based on arbitrary method of search for truth. But this is not at all true.

In contrary, Ayurveda is the science of medicine which adopts critical scientific approach or scientific method to acquire knowledge. Scientific method is systematic rational approach to seek in facts. It is objective, precise & arrives at conclusions on the basis of verifiable evidences.[14] Ayurveda adopted scientific method to search for truth which is evident from elaboration of Pramana Vidnyana in ancient Ayurvedic texts.

As ancient Ayurvedic texts mainly follow prescriptive method to present facts, there is a large scope of exploration of these basic concepts. e. g., In Ashtanga Hridaya, it is mentioned that Medo-dhatu kshaya

(decreased medodhatu) leads to spleno-megaly (increased size/inflamm ation of spleen).[15] But cause & effect relationship is not described & thus requires further exploration of this concept.

According to Charakacharya, in the pathogenesis of Panduroga.
There is decrease in Raktadhatu & Medodhatu[16] but specific reason for decrease in Medodhatu is not explained. Thus more emphasis is given to correct deficiency of Raktadhatu in the treatment of Panduroga. Very little or no attention is given to Medo-dhatu kshaya.

According to Samanya – Vishesha Siddhanta, deficiency of Raktadhatu should cause liking for hot items but deficiency of Raktadhatu causes liking for cold items instead of hot items.[17] 1The proper explanation of this phenomenon is not given in the text.

These concepts require logical reasoning for validation. Thus study of Ayurvedic texts; i.e.; authoritative statements are useful in identification of research problem which require further exploration based on scientific methods. Actually, exploratory research attempts to clarify why & how there is relationship between two aspects of a situation or phenomena. Such exploratory or correlational studies can be undertaken in the field of Ayurvedic Research.

e. g. a) Analytical study to establish a correlation between Viruddhahara (incompatible food) & kushtha (skin disorders). One more form of research, i. e. validation of concept study can be undertaken in Ayurveda.

e. g. **a) Meheṣu Dhātriniśa** (Amalaki & Haridra are the drug of choice for the treatment of Prameha).[18]

b) Plĭhamaye Pippalĭ (Pippali should be used for the diseases of spleen).[19]
Such concepts can be validated with the of systematically designed experimental studies i. e. clinical trials. One who is not fully conversant with what has gone before has little chance of making a worthwhile contribution. Therefore a researcher has to survey the available literature relating to his field of study. He must keep himself update in his field & related areas.

Therefore Sushrutacharya says, A person who has studied one branch of science only, cannot arrive at proper conclusion; therefore the physician, who has studied all related branches of science, should try to practice the medical science.[20]

Thus Aptopadesha or authoritative statements help researcher to establish the theoretical roots of the study & later on to integrate the findings of researcher with the existing body of knowledge Vadamarga, meaning, logical terms to be acquainted with while participating in debates. Vadamarga are meant to make oneself perfect in the art of debate or discussion, to improve oratory power needed to educate others by oral means or to communicate with the patient or community regarding healthcare system. A critical scientific approach of science of Ayurveda is evident from the concept of Siddhanta, which Charaka has mentioned as one of the 44 methods of debate.[21] A demonstrated truth, established after several examinations & reasoning's is known as Siddhanta.[22]

As scientific method is applicable to all sciences, it consists of:
a) Intensive observational
b) Formulation of general hypothesis
c) Use of hypothesis to make predictions
d) Testing predictions by carefully controlled experiments.
e) If the experiments prove the predictions right: hypothesis to be accepted.
f) If not: hypothesis should be rejected or should be modified.

In the same manner, Siddhanta concept is an evidence of ancient research method which is systematic, critical & which makes use of various examinations & reasoning to establish truth or fact.

Siddhanta is of four types.
1. Sarvatantra Siddhanta (common to all branches of knowledge)
2. Pratitantra Siddhanta (specific to a given branch of knowledge)
3. Adhikarana Siddhanta (truth implied in given context)
4. Abhyupagama Siddhanta (hypothesis or postulate)[23]

Out of these, Abhyupagama Siddhanta can be considered as postulate or assumption taken for granted for time being. This is nothing else, but hypothesis which brings clarity, specificity & focus to a research study. Hypothesis is a proposition, condition or principle which is assumed, perhaps without belief, in order to draw out its logical consequences & by this method to test its accord with facts which are known or may be determined.[24]

e. g. a) In an analytical study to establish a correlation between basic knowledge of Sanskrit language & progress in B. A. M. S. examination.

Hypothesis can be formulated as.
i) There is no correlation between the basic knowledge of Sanskrit language & progress in B.
A. M. S. Examination. (as null hypothesis)
ii) The progress in B. A. M. S. examination is dependent on the basic knowledge of Sanskrit language. (as alternative hypothesis)
b) In an observational study to assess attitude of Ayurvedic physicians towards utility of Padartha Vidnyana in clinical practice.

i) Knowledge of Padartha vidnyana is of no use in clinical practice. (As null hypothesis)
ii) Knowledge of Padartha Vidnyana is essential in clinical practice. (As alternative hypothesis) Research can be considered as journey from idea (which should be novel) to hypothesis (systematic formulation of an idea/ research problem) & to thesis (valid conclusions) finally.

Thus, Aptopadesh or Authoritative statements are considered as the reliable source of existing knowledge, suggest new ideas for research & also help in the development of research methodology.

Pratyaksha Pramana (Direct Perception)

Though Ayurveda accepts various types of the methods of the knowledge; the superiority of Pratyaksha Pramana (direct perception) remains unchallenged. A source of knowledge: After obtaining the primary knowledge to expand one's horizon, one has to take recourse of this method. Other Pramanas like anumana, yukti, etc. more or less depend upon pratyaksha Pramana. A mental faculty instantaneously manifested as a result of the proximity of soul, sense faculties, mind & the object is known as Pratyaksha.[25] 25 The knowledge which is perceived by sense organs & mind is called as Pratyaksha & means of it is called as Pratyaksha Pramana. Here knowledge is the result while the contact of the sense organs & the object is the means of knowledge.[26] Acharya Sushruta gives direction towards coupling of Aptopadesha (Authoritative statements) with Pratyaksha Pramana (direct perception) for advancement of knowledge.[27]

As Charakacha says, Proper knowledge of disease can be gained through three Pramanas.
a) Aptopadesha Pramana (Authoritative statement)
b) Pratyaksha Pramana (Direct Perception)
c) Anumana Pramana (Inference)[28]

Out of these, by using Pratyaksha Pramana- Except Rasa, other senses i. e. shabda, sparsha, rupa & gandha can be perceived directly. Thus pratyaksha Pramana helps in Rogi – Roga Pariksha.[29]

There are two major approaches for gathering data for any research study. Sometimes, information required is already available & need only be extracted or sometimes, information needs to be collected afresh.

Depending upon these two approaches, data are classified as.
a) Primary data
b) Secondary data

Primary sources of collecting data are mainly by observation, interviewing, & by questionnaire. These methods of data collection depend, more or less on pratyaksha Pramana, mainly by observation. Other methods of data collection are which lead to non – perceptibility by these faculties.[30] Process of contact depends on the distance between the senses & their objects, presence of healthy sense organs, absence of any obstruction between the senses & their objects, application of mind, absence of confusing state of similar objects, absence of over shadowing & absence of minuteness.[31] Contrary to above factors, the direct perception is bound to fail. The limitations can now be overcome by modern scientific equipments. The scientific equipments are the outcome of research work either by serendipity or by systematic research designs.

Anumana Pramana (Inference)

The act of inferring i.e. knowledge of unknown from the known facts is called as Anumana or Inference.[32]

Anumana or inference is the indirect knowledge based on reasoning.[33] Anumana Pramana is a logical conclusion based on reasoning. Inference is based on prior perception. It is of three types & is related to the three times.[34]
a) Inference of the cause from the effect - relates to past.

This can be correlated with the case control study design (i.e. retrospective study)
b) Inference of the effect from the cause –relates to future. This can be correlated with cohort or prospective study design.
c) The commonly observed events at present. This can be correlated with Case sectional study design (Time prevalence study).

e. g: - As per quotation from Charak Samhita Sutrasthana 21/14

Hypothesis: - Krisha (emaciated) people are more prone to get Grahanigata Vyadhi. Hence; we want to establish correlation between karshya (emaciation) & Grahanigata Vyadhi.[35]
a) Case-control study would be Selection of patients suffering presently from Grahanigata Vyadhi & to ask them about history of emaciation (karshya) i. e. check whether emaciation has caused Grahanigata Vyadhi or not.
b) Cohort Study would be - Selection of Krisha (emaciated/lean) people & observe them over a period of time how many of them will develop Grahanigata vyadhi in future.
c) Cross-sectional Study would be-To know prevalence rate of grahanigata vyadhi in krisha (emaciated) persons.

Thus Anumana or Inference helps in establishing correlation between two factors or to establish cause-effect relationship between two variables. Anumana (Inference) is used extensively as means to acquire knowledge. Various causes of non-perceptibility can create hurdles in direct perception. In this field, Anumana helps in acquiring knowledge. Anumana Pramana plays a vital role in interpretation of results. Interpretation refers to the task of drawing inferences

from the collected facts after an analytical or experimental study. It is search for broader meaning of research findings. Generalization of results is based on inference only.

Anumana Pramana is of two types.

a) In one type it is for one's own self i.e. Swarthanumana &
b) In another condition; it is used to provide knowledge to others i.e. Pararthanumana

Swarthanumana (Inference for one self) is the cause of deduction of logical reference in one's own mind.[36] For this; one should have inquisitiveness or curiosity. As it is said; inquisitiveness is the mother of all knowledge. A person with curious & questioning attitude will search for truth in a scientific manner & by applying logical process of reasoning he/she will reach to valid conclusion.

Pararthanumana
(Demonstrative inference) – A person after getting inferential knowledge; it should be demonstrated to others by Panchavayavi vakya (5 components of reasoning), it is known as Pararthanumana.

Panchavayavi Vakya contains.

a) Pratidnya (Proposition)
b) Hetu (Reason or Cause)
c) Udaharana (Example)
d) Upanaya (Justification)
e) Nigamana (Conclusion)[37]

Thus Pararthanumana is an important means through which the knowledge recognized by one person is distributed to others. This can be correlated with report writing according to process of research.

The purpose of research is not well versed unless the findings are made known to others. Research results must invariably enter the general store of knowledge.

Yukti Pramana (Logical Reasoning)

The knowledge which sees the things produced by combination of multiple causative factors is yukti (rationale or logical reasoning). It is true in the three times & is also useful in achieving the three objects (dharma, artha & kama).[38] Rational & fruitful combination of several factors is yukti. Recognition of yukti as a means of valid knowledge is the peculiarity of Charak Samhita. Yukti helps in determining one effect in relation to the various causative factors responsible there of Yukti is the rational planning of therapeutic measures.[39] Dosage & time of administration of drug requires proper planning & success depends upon proper planning. So; the physician who knows yukti (logical reasoning) is superior to one who knows only drugs.[40] Success shows the proper application of all the measures & success, in turn, indicates the physician endowed with all the qualities. Here 'proper application' is yukti itself.[41] Yukti can be considered as logical reasoning to establish a cause & effect relationship. In fact, yukti is rationally based on cause effect relationship. In inference too; there is cause- effect relationship but in that case single cause produces effect & not multiple ones as in case of yukti.

Ayurveda is an applied science in which the patient & the disease are to be thoroughly examined & treated. This requires the physician to have some prior theoretical knowledge of the subject on the basis of which the diseases etc. are examined by the method of direct perception. Some of the factors which are not cognizable by sense organs may create some doubts on some occasions where trial & error method may have to be resorted to, in order to have clarity of perception. As Ayurveda is a medical science, it demands that everything should be rational & pre-tested. Yukti helps for rational inference based on direct observation of experiment or test. Thus; in the context of Pramana, yukti may be considered as follows: As per the criteria of good research, good research is logical –this implies that research is guided by the rules of logical reasoning & the logical process of induction & deduction are of great value in carrying out research. Scientific method which is adopted to search for facts is also utilization of Yukti.

The scientific method is a systematic step by step procedure following the logical process of reasoning.

CONCLUSION

- Research can be considered as journey from idea (which should be novel) to hypothesis (systematic formulation of an idea/ research problem) & to thesis (valid conclusions) finally.

To gain clear & entire knowledge of science of Ayurveda, it was necessaryto search for scientific devices or methods of approach. This necessity has prompted Charakacharya to adopt Pramanas. In Ayurveda, Pramanas are called as Pariksha, meaning scientific investigation. Pramana vidnyana can be considered as scientific tools of research.

- Aptopadesha, Pratyaksha, Anumana & Yukti Pramana are very much useful at all steps of research such as planning, operation & reporting.
- Pramana vidnyana proves that Ayurveda accepts the scientific method in search of truth (based on logical reasoning) & not the arbitrary or unscientific method.
- Thus, these Pramanascan be considered as ancient methods of research which are essential in development of research methodology of ancient medical science of India, i. e. Ayurveda.

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