

Literature Research

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Introduction

Literary Research is the backbone of various research branches Literary Research includes -

To find out all possible information's about a particular text or literature in

published or unpublished matter in various forms such as shilalekha, tadpatri, manuscript, book etc.

To preserve - them according to their forms with modern techniques.

To analyse - them with the help of various study branches, revision & editing the information to draw a concrete conclusion in accordance with present & future Study.

Issues in Literature Research

1. Literature research is a soul of fundamental / conceptual Research which, with possible integration with modern sciences would be useful for better health care practices for tomorrow. However current research practices are focused more on clinical research. Literature research even though base of any research has so far remained neglected branch of a research.
2. Entire knowledge base of Ayurveda is preserved in Ancient Literature e.g. Vedas. Samhitas, Samgrah texts, etc. during last century hidden linkages of this knowledge base which is in the form of Aphorisms have been studied methodically by scientist of west & copy right of many vital samitas e.g. Charak Samhita & their commentaries is being taken by scientist other than Indian. Hence there is an urgent need to preserve this vital knowledge base of Ayurveda by proper guidelines & technologies.
3. Use of Modern technology in Ayurvedic literature research is overlooked which is need of an hour. for storage & retrieval of data in texts. However issues in Ayurvedic literature research as claimed by modern scientist have been summarized in table No. 1

Strategies

1. Training in literature research methodologies by both Ayurvedic guidelines & modern technologies.
2. Possible integration of Ayurvedic research guidelines with modern technology.
3. Training for up gradation of knowledge of Sanskrit, Linguistics, Grammar & contemporary sciences like Darshana, Nyaya, Yoga etc.
4. Networking of libraries
5. Use of IT (Information technology)
6. Online facilities to access & retrieve data in the literature
7. Publication strategies to be reformed by Govt. & private sectors.
8. Revival of ancient literature survey, collection, transcription / translation / transliteration, editing & publication of classical literature & textbooks on ISM.



Objectives For Literary Research

- 1) To explore the printed material and also unpublished material for the present study.
- 2) To find out hidden linkages in various unpublished material in ancient & present context of research.
- 3) To find out proper meaning of unsolved & doubtful concepts in various materials.
- 4) To save duplication of work to save money & time.
- 5) To find out chronological research in the past which is helpful to have an ideal for research in present & future.

Application Of Literary Research In Modern Era

Literary Research holds its great usefulness in the research field of modern era & vice versa modern technology has proved to be more helpful in literary research, which helps us to draw concrete inferences from it.

Use of Literary Research in present research work -

1. Proper Literary research gives proper guidelines to estimate hypothesis in present research
2. On the basis of literary research modern day research can be analyzed.
3. The chronological importance based upon literary research triggers present & future research work.
4. Literary research can be helpful to solve unresolved or doubtful concepts as hidden linkages can be drawn from literary research.

Methods -

Ayurvedic Guidelines for Literature Research

Ayurveda has given guideline to study text as well as meaning in Aphorisms in following steps.

- o Tantra
- o Tantratha
- o Stana
- o Adhaya
- o Adhikarana
- o Adhayartha
- o Vakya
- o Vakyartha
- o Shabda
- o Shabdārtha

Tools:

- Tantrayuktis as mentioned above
- Commentaries
- Use of samskrit Dictionaries
- Encyclopedia
- Literature in Ancient Sciences Co-existing Samhita
- Veda, Purana, Darshanas, Nyaya, Patanjala Yoga etc.
- Electrotric Media

Application of literature research in Ayurvedic research practice

As already discussed literature research is the base of any research and study. Ayurvedic guidelines are useful as follows: -

- **Tantra & Tantratha:** - As knowledge of Ayurveda is stored in Bhrihatatrayi namely Charak samhita ,Sushruta Samhita and Astang sangraha, laghutrayi and Nighantus ,study of original version of particular samhita with respect to its originality, author, aims, styles and contents is useful to understand the concepts and practice of Ayurveda e.g. Sushruta Samhita is mainly written ,aiming at 'Shalyatantra' (Surgical stream). Scope of research in any surgical procedure would be properly defined by proper understanding of 'Sushruta Samhita'. Likewise maternal and child health is better explained in 'Kashyapa Samhita', which should be studied thoroughly for research in maternal and child care (MCH).
- **Sthana:-** Every classical text is written with specific aims and objectives .Accordingly the entire subject is classified in various sthanas (sections)in order to explain and maintain the flow of the subject .Knowing the primary objectives of sthanas , is helpful in proper understanding of the subject e.g. 'Kalpasthana' in Charak samhita aims at principles of Ayurvedic pharmaceuticals especially for emetics and purgatives .One who wishes to study the different 'Dosage form of a drug and their application ,should review 'Kalpasthana' of Charak samhita . Like wise, one who wishes to study the 'prognosis of the diseases' should review 'Indriyasthana' of Charak samhita .
- **Adhyaya-** content of sthana is subdivided into 'chapters' (Adhyaya). e.g. Chikitsasthana of Charak samhita is divided into 30 chapters. Every chapter deals with principles of diagnosis and management of specific diseases e.g. chapter 3 of 'Chikitsasthana' explains diagnosis and management of 'Jwara' (Different types of fevers). Before taking any research project on 'Fever'; this chapter should be thoroughly reviewed. Like wise comparative study of 'Jwara Adhyaya' from all the samhitas is useful to design the protocol and selection of a medicine in, specific type condition of Jawara e.g. if research on Anti Malarial is to be conducted, study and review of 'Vishama Jwara' and 'Sannipataja Jwara' part of all the samhitas is mandatory prior to selection of a drug and designing of trial.
- **Vakya and Vakyartha(Sootra and sootrartha):** -The entire knowledge of Ayurveda is stored in codified language in 'Aphorism' or 'Sootra'. 'Sootra' and 'Vakyas' (sentences) give the insight and stimulus for thought process. Aim of literature research is to find out actual meaning and relevance and hidden linkage of this Sootra in current practice e.g. Definition of 'Rasayana' given in various Sootras give clues for research in 'Rasayanas', even scope and limitation of research can be defined by understanding meaning of definition of rasayana.



● **'Shabda and Shabdārtha'** :- This the basic unit of literature research. In Ayurvedic text, 'one word' (Shabda) is used to explain various terminologies in different contexts for examples are as follows:-

1. 'Rasa' is used for Mercury, Taste, one of the basic tissue as well as digestive juices. The relevant meaning should be identified in context to the particular 'Sootra'
2. Various 'synonyms' given to a single plant are useful to understand exomorphic characters as well as properties and specific indications of that particular plant, e.g. 'Chakrangi' word is used to explain the medullar rays of *Tinospora cordifolia* (Guduchi). Likewise synonym, 'Krimighna' explains the unique and specific effect of 'Vidanga' i.e. *Embelia ribes* in Krimis (Antibacterial and Anthelmentic Action).

Few examples which are cited above explain the importance of Ayurvedic guidelines of literature research prior initiation of Clinical trials.

Thorough knowledge of 'Sanskrit', 'Nyaya' and other Darshanas help in understanding the meaning between the lines.

Methodology Of Literary Research

1. Collection of References
2. Ordering of references in chronological order.
3. Accept or reject every reference by critical evaluation.

1. Collection of Reference -

- A. Ayurvedic literature - Published / unpublished
- B. Non - Ayurvedic literature published / unpublished includes Vedas, Upanishadas, Kautilya, Arthashastra Manuscripts etc.

● Forms of collection of literature

1. Primary Data - Audio Visual Tapes etc.
2. Secondary Data - Oral, Handwritten Manuscript

Handwritten Data -

- a. Books
- b. Manuscripts
- c. Various metal plates
- d. Shilalekh
- e. Pohthya
- f. Chitralipi etc.

2. Preservation of References

- a. Photocopying
- b. Microfilming
- c. Chemical & physical treatment
- d. Scanning & Saving in digital form
- e. Transliteration - No change in words but change in script.

3. Ordering Chronologically

a. By linguistic Material

- Ink - Spectroscopy, Carbon dating
- Work - Synonym, antonyms etc.
- Script - Sanskrit, Pali etc.
- Idioms
- Grammar
- Style - concordance study

b. By Direct Reference

- Persons
- Plants & Animals
- Kings
- Previous Texts
- Omission
- Code Language

4. Study of Reference

a. Critical Study -

- Evaluation of particular text or particular topic
- Meaning of text
- Influence on text
- Ideas of author on text
- Whether text matches / differs with others.
- List of all topics & opinions - Divide it in confirmation category & Difference category i.e. who agrees & who disagrees
- If texts only follows - no valuable.
- Original idea - time of text Historically must be specified the idea must be followed by further texts in chronological order
- Reasoning / evidence for any difference

b. Concordance Study

Study of frequency analysis

*Every word in topic is listed & frequency of various words is analyzed which should be uniform through out the text.

- To find out 'Prakshipta'
- To find style of writing
- To verify authenticity
- Useful in breaking code language.

C. Comparative study

Data studied is critically compared with available literature.



5. Preparation Of Edition

a. Comprehensive edition

It includes Collection of all texts with all pathabhedas & possible versions It is useful for

- For formulation of literary research this is important
- For concept formulation this is not of use.
- For comprehensive study holographic film is used for continues picture.

In comprehensive study there is all possible collection of references but no comment on it.

b. Critical Edition -

- Similarities & differences are counted & studied with Pathbhedas.

c. Standard Edition -

These contain the core part - common to all manuscripts - standard edition.

One concept with all pathbhedas at footnote.

So standard edition will have name of the editor

6. Review of literature

A. simple / Journalistic - include all articles & narrates etc.

B. Systematic Review definition are stated inclusion, exclusion criteria etc. Further stage of systematics review is Metaanalysis.

Importance Of Modern Technologies In Literature Research.

Modern Technologies which are useful for Ayurvedic literature research are summarized as follows.

1) Modern Technology in literary Research it is useful for Preservations of various Literary material in audio / visual forms

Tools -

- a. Photocopying
- b. Sound recording & saving in digital form
- c. Microfilming
- d. Chemical & physical treatments
- e. Scanning & saving it in digital form

2) It is useful in stating chronological order

Tools -

- a. Spectrophotometer / Emission spectroscopy
- b. Carbon dating
- c. X-rays



3) It is useful in Analysis of literature research

Tools -

- Holographic film in comprehensive study.
- Computer analysis for concordance study

Use of Information Technology in Literature Research

- Digitalisation of the text (T.K.D.L. project of C.S.I.R.) facilitates easy retrieval of the data.
- 'Data base' (Like Triskandha Kosha) by help in faster connection of data, concordance study, and analysis of the concepts.
- 'User Friendly Software' based on information available in database are useful to link the data for the use of physician, e.g. patient's information management System.
This facilitates managements as well as used as decision supporting tool in Diagnosis of a disease, e.g. (Ayusoft at C-DAC Pune)
- Networking of libraries - may be useful for exchange of rare information preserved in manuscripts and books.

Outcome

- Indian Publication of authentic Ayurvedic literature keeping its originality & true essence.
- Use of concepts in literature with possible integration with modern technologies for better understanding of life science.
- Preserved knowledge base of Ayurveda for present day research with possible integration.
- Readymade database & software on Ayurveda which could be ready to use for the end users.

**Table - 1 Issues in Search of Ayurvedic Literature
Ref (Dr. Arun Bhatt's Presentation in 2001 at Pune)**

Source / Approach	Issues
Citation in Ayurvedic texts	<ul style="list-style-type: none"><input type="checkbox"/> Translation from Sanskrit to English<input type="checkbox"/> Interpretation from Ayurvedic concepts to Allopathic equivalents.<input type="checkbox"/> Availability in electronic form<input type="checkbox"/> Correspondence between Sanskrit and botanical name of medicinal plant.
Acceptance in local clinical practice	<ul style="list-style-type: none"><input type="checkbox"/> No clinical / experimental studies of conceptual basis<input type="checkbox"/> Few systematic critical reviews / meta analysis available.<input type="checkbox"/> Lack of documentation of long term human experience<input type="checkbox"/> Paucity of data on diet therapy, panchakarma & Ras (metals)<input type="checkbox"/> Limited information on dose - indication / route / non -pharmacological therapy relationship.<input type="checkbox"/> Most clinical trials open uncontrolled.<input type="checkbox"/> Lack of phyto -pharmaceutics information for mono & poly-herbal formulation<input type="checkbox"/> Few studies of standardization with chemical markers in animals / humans
Search from Journals	<ul style="list-style-type: none"><input type="checkbox"/> Focus of international journals on studies of medicinal plants of Western or Chinese origin.<input type="checkbox"/> On-line access of Ayurvedic journals limited<input type="checkbox"/> Most Ayurvedic journals lack peer review<input type="checkbox"/> Publication in journals with diverse focus - botany , pharmacy, pharmacology.



Literature Search

AIMS :

1. To collect relevant information & also the methodology used by earlier works.
2. Development & elaboration of topic through elimination of lacunae if any.

Process :

A. Review from text

Vedic Era

Samhitas

Commentators

Medieval

Sangrahakal

Text

Modern Literature

B. Review from published research work

Journals / Periodicals

Dictionaries

Encyclopedia

Resource guides

Handbooks

WHO publications on TM etc.

Expanding Horizon -

Using modern technology for reference

Electronic tools for referencing of traditional medicines

-The Med Engines

-Indexes

e.g. All Health Watches.

IBIDS (International Bibliographic information on dietary supplements produced by National Institute of Health.)

- Databases

e.g. NARALERT

AMED (All red & complementary medicine database)

TOXTNET TOXLAR, AGRICOLA,

- Internet Sites

e.g. Herbmed

Pubmed et

- govt. Agencies

e.g. ISDOC, USDA Plants National Database, NEC, NCCAM Traditional TKDL, Knowledge Library etc.

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