

An Observational Pilot Study Regarding Awareness of Scientific Writing and Publication Among Interns of The Government Ayurveda College

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Abstract

Writing and publishing are the established modes of transformation and circulation of information. Scientific writing and its publication through a proper medium is an essential part of the development of science, especially in the field of Ayurveda. Interns in the field of Ayurveda are learners who improve clinical skills with the help of academics and practical experiences in clinics and hospitals. If interns are aware of the basics of scientific writing and publications, they can begin to document their observations in the form of case studies and thereby can contribute to the development of science. Therefore, the present study was planned to check the awareness of scientific writing and publication among interns of the government Ayurveda college. The study was conducted among interns of Government Ayurveda College. 30 interns participated in the survey study. Data were collected using Google Form. Based on the current study, it was concluded that interns of the government Ayurveda college were aware of scientific writing and publication. Based on the current study, it was concluded that interns of the government Ayurveda college were aware of scientific writing and publication.

Key words : Scientific writing, publication, interns, Ayurveda.

Writing and publishing are the established modes of transformation and circulation of information. Scientific writing and its publication through a proper medium is an

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essential part of the development of science, especially in the field of Ayurveda. The principles, hypotheses, treatment formulas, and different methods of preparation of drugs, as well as success stories of treatments, need an appropriate platform so that these can reach the people. So, the publication of such data in a scientifically written manner is now an important aspect with respect to the acceptance of Ayurveda.

Need for scientific writing and publication –

- To establish pioneership
- To provide a base for research
- Sharing of knowledge
- Improvement in patient care
- Growth of the science
- Growth of personal knowledge

Thus, Scientific writing in the field of Ayurveda bridges the gap between classical texts and evidence-based sciences.

An internship is a transitional phase between academics and implementation of knowledge in the profession. Interns in the field of Ayurveda are learners who improve clinical skills with the help of academics and practical experiences in clinics and hospitals. If interns are aware of the basics of scientific writing and publications, they can begin to document their observations in the form of case studies and thereby can contribute to the development of science.

Therefore, the present study was planned to check the awareness of scientific writing and publication among interns of the government Ayurveda college.

Research question –

Are interns of the government Ayurveda college aware of scientific writing and publication?

Aim and objective –

To observe the awareness about scientific writing and publication among interns of the government Ayurveda college.

Methodology –

- Study type – pilot, survey
- Sampling technique – purposive sampling
- Sample size – 30
- Inclusion criteria –

1. Interns working at the corresponding author's Institute
2. Either gender
3. Willing to participate in the study

- Exclusion criteria – NA
- Method of collection of data – by Google Form

A Google Form was prepared comprising 7 questions, 3 of which were objective and 4 were open-ended.

Steps in the study –

Selection of the volunteers was done based on inclusion and exclusion criteria.



Informed written consent was taken.



The Google Form was circulated.



Volunteers were asked to fill out the Google Form in front of the investigator.



The data collected was analysed.

Review of literature -

There are two basic terms – manuscript and article.⁷

- Manuscript = any text, either handwritten or typed, that is not published yet is called a manuscript.
- Article = any text, either handwritten or typed, that is published either in printed form or online is called as an article.

Modes of publication²² –

- **Physical Media²⁶** - Any information that is published, shared or stored in a physical medium is considered physical media. Newspapers, magazines, and many journals are published on paper. New journals and magazines usually publish their content online. Different data storage formats, such as CDs, DVDs, and cassettes, are also considered physical media.
- **Scholarly Sources²¹** – Scholarly sources are an important term in academics and scientific writing. These are specific to an expert audience of different fields. These are usually in technical or scientific language.
- **Primary or Secondary Sources²⁴** - First-hand information is called as a primary source. Analysis or interpretation of previously collected information is called a secondary source.

Types of articles

There are different ways to present data in a scientific, well-written manner. The

type of manuscript or article depends upon the data to be published.¹⁹

- **Book review²⁰** - A detailed report of analysis or criticism about a published book is called 'book review'. These help the scholar or audience to make a judgement about the book.
- **Case report²³** - A medical case report includes a detailed description of a single patient with clinical presentation, diagnosis, treatment and follow-up.
- **Clinical study¹⁴** - A clinical study is a description of an intervention and its outcome. It is summarised as an interventional study and an observational study.
- **Commentaries and letters to editors¹⁴**– A critical illustration or review of a previously published article is called a commentary. A textual communication between the audience and the editor is called letters to editors.
- **Conference materials¹⁴** – A published record of abstracts or full papers presented in any congresses, symposia, and meetings is called conference material or proceedings.
- **Laboratory protocols¹⁴** - A laboratory protocol is information about procedures of different laboratory and diagnostic tests.
- **Letters or short reports¹⁹** – A brief description or interim report of the original research work is called a short report.
- **Research article¹⁹** – A detailed report of original research work is called a research article.

- **Review article**¹⁹ - Review articles provide critical and constructive analysis of previously published information.

Indexing of the journal in database¹¹ –

Indexing is a record of journals based on quality, impact and credibility.¹⁵

Types of indexing databases¹ -

- **Web of Science (WoS)** - WoS was founded by Eugene Garfield as a product of the Institute for Scientific Information¹. Earlier, it was known as Web of Knowledge.²⁵ Currently, it is owned by Clarivate. It is also called the Science Citation Index (SCI).⁸ Four categories are included in WoS Core Collection²:
 - Emerging Sources Citation Index (ESCI)
 - Science Citation Index Expanded (SCIE)
 - Social Science Citation Index (SSCI)
 - Arts & Humanities Citation Index (AHCI)
- **Scopus**⁹ - Scopus is a large multidisciplinary subscription-based abstract and citation database owned by Elsevier. The indexed journals are categorised by topic, ranking lists and by several metrical parameters (the best known of them is Cite Score), and are published annually. It also offers analytics tools for h index, citation counts, and author/affiliation profiles, which are widely used in research evaluation and institutional reporting. For citation analysis, Scopus offers about 20% more coverage than Web of Science.¹⁰
- **SCImago**¹⁸ - SCImago is a measure of citations of the journal over a particular period of time. It is based on the Scopus database.¹⁷ SCImago Journal helps scholars to decide the journal smartly.¹⁸
- **PubMed** - PubMed is a free database based on the Medline database. It is run by the United States National Library of Medicine (NLM)¹⁶.
- **DOAJ**⁵ - DOAJ is a database of open access journals to access free journals. It is a record of 92 languages, 141 countries represented, 14,401 journals without fees, 23,237 journals, 13,296,455 article records⁶.
- **Crossref**³ - Crossref plays the role of an open setup to find, cite, access and link research objects. It is the largest digital object identifier (DOI) Registration Agency of the International DOI Foundation⁴.
- **Google Scholar**¹² - Google Scholar is the most used free search engine for published articles. The domain of Google Scholar is wide, including articles, theses, books, abstracts and court opinions from academic publishers, professional societies, online repositories, universities and other websites¹³.

Observations and outcome :

There were 7 questions in the Google Form. Collected responses were analysed as follows –

Q1 - What is an article?

Q - What is an article?	N	%
A piece of writing in a newspaper or magazine	1	3.3%
A piece of writing in a newspaper and magazine	1	3.3%
A piece of writing in a newspaper or magazine	1	3.3%
A piece of writing in a magazine or newspaper	1	3.3%
Research-based evidence to provide facts regarding a hypothesis	1	3.3%
About audit	1	3.3%
An article is a piece of content that represents ideas in a structured way	1	3.3%
An article is a written piece on a specific topic that presents information, ideas, or research, usually published in a journal, magazine, or newspaper.	2	6.7%
An article is a written work that presents information, ideas, or research findings on a specific topic, usually published in a journal, magazine, or newspaper.	1	3.3%
An article is any writing issued in a newspaper or any other journal.	1	3.3%
An article is a structured written work that inform explain or discusses a topic for readers	1	3.3%
An article is writing on different topics and categories which have been observed and studied.	1	3.3%
An article is a paper describing research	1	3.3%
An article is a scientific written work published in a journal	1	3.3%
An article is a written composition on a particular subject published in a newspaper, magazine or journal	1	3.3%
An article is a written thing for interns to explain their learning experience or results for outcomes during internship	1	3.3%
An article is any writing or presenting thoughts on a particular topic.	1	3.3%
Article is any writing or parenting thought on a particular topic	1	3.3%
Article is overall research and its explanation with merits and demerits	1	3.3%
Article shows how care was measured against standards, describes current clinical practice and recommends evaluation	1	3.3%
Brief description of any topic in magazine and books	1	3.3%
Brief description of any topic in magazine or newspaper	1	3.3%

Drug and magic remedy act	1	3.3%
Evaluating quality of patients	1	3.3%
It is a research-based observation published in a paper for more detailed knowledge about a specific topic	1	3.3%
It is any type of research or conclusion based upon standard scientific research.	1	3.3%
Manuscript after publishing	1	3.3%
Scientific written work published by a renowned person	1	3.3%
Scientific written work published by a scientific journal	1	3.3%

This was an open-ended question. The responses received are summarised in the above table. It was observed that the majority of the respondents are quite aware of the concept of an article.

Q2 - What do you know about scientific writing and publication?

What do you know about scientific writing and publication?	N	%
Any research containing a scientific method, introduction and conclusion	1	3.3%
Any study that we acknowledged that we want to share with the community.	1	3.3%
Full information about the experiment	1	3.3%
It has all details about the research and results obtained from the research	1	3.3%
It is a structured way of sharing research findings and sharing ideas	1	3.3%
It is a systematic study on any topic-related study which is used by researchers to share their analysis, interpretation, and results of their experiments.	1	3.3%
It is precise, structured, concise and technical communication	1	3.3%
It is the process of documenting and presenting scientific research	1	3.3%
It is the process of writing and systematically arranging the scientific information	1	3.3%
It's about providing a brief description regarding certain drugs, diseases, or even treatment.	1	3.3%
It's a method of research	1	3.3%
It's about a brief description regarding communication	1	3.3%
No idea	1	3.3%
Not much	1	3.3%
Not significant	1	3.3%
Process of clearly, accurately, and ethically communicating scientific research	1	3.3%

Research and review article presentation. Orientation program. Case series presentation	1	3.3%
Scientific writing and publication represent the formal, structured, and peer-reviewed process of communicating original research findings to the scientific community	1	3.3%
Scientific writing has a specific pattern that shows detailed explanation from the introduction to the discussion	1	3.3%
Scientific writing is a clear, structured, and objective way of presenting research.	1	3.3%
Scientific writing is a structured way of organising data so that others can understand, evaluate and utilise the work. Publication provides access to a large number of people through advertisements, journals, etc	1	3.3%
Scientific writing is a systematic and clear way of presenting research findings in the form of articles or papers. Publication is the process of submitting, peer reviewing, and publishing the research in a recognised scientific journal to share knowledge with the scientific community.	2	6.7%
Scientific writing is based on observational data and scientific theory about topics that can be further used for future use, and if the scientific writing can be applied, then it is implemented	1	3.3%
Scientific writing is written by any authorised scientist, while publications are made by any individual, like any institute, firm, etc.	1	3.3%
Structured, technical process designed to communicate research findings to the scientific community, allowing for the sharing, validation, and advancement of knowledge	1	3.3%
The formal, structured process of documenting research findings and sharing them with the global scientific community to advance knowledge	1	3.3%
To write about any topic that one has studied ...in a proper sequence way.	1	3.3%
Very few things	1	3.3%
Yes	1	3.3%

This was an open-ended question. The responses received are summarised in the above table. The majority of the respondents answered something related to article publication. 2 responses were vague, saying 'yes'.

3 responses said 'no'.

Q3 - What are the different indexing databases? Enlist a few which you know.

What are the different indexing databases? Enlist a few which you know.	N	%
No	1	3.3%
A database is the repository where data is stored, while an index is a separate, supplementary structure used to locate that data faster	1	3.3%
Bitmap indexes	1	3.3%
Collection of data, date, time, place, purpose	1	3.3%
Database indexing is a technique used to speed up data retrieval by creating a separate, organised data structure (the index) that allows the DBMS to locate records without scanning the entire table. Indexes are essentially sorted pointers to the actual data rows.	1	3.3%
Don't know	1	3.3%
Indexing databases are platforms that catalogue, abstract, and index journals and research articles, helping researchers find credible and peer-reviewed literature.	1	3.3%
Indexing databases are platforms that list and organise scientific journals and articles to improve their visibility and accessibility. Examples include PubMed, Scopus, Web of Science, Google Scholar, Index Copernicus, and DOAJ.	2	6.7%
It includes public journal literature	1	3.3%
It includes public journals, literature and traditional knowledge.	1	3.3%
Key value	2	6.7%
No idea	1	3.3%
No idea.	1	3.3%
None	2	6.7%
Not known	1	3.3%
Planning of the activity one day before for a better outcome. Building activity	1	3.3%
Platforms that catalogue, abstract and index journals and research articles	1	3.3%
Public journals, literature	1	3.3%
PUBMED, DHARA, SCOPUS	1	3.3%
PubMed, Ayush Research Portal	1	3.3%
PubMed / MEDLINE, Scopus, Embase	1	3.3%
PubMed, MEDLINE, Scopus, Embase	1	3.3%
PubMed, Scopus	1	3.3%
PubMed, Google Scholar, Embase	1	3.3%
Red data book	1	3.3%

Technique to speed up data retrieval by creating a sorted data structure (like a book's index) that allows the database to find specific rows quickly, avoiding slow, full table scans, by using key values and pointers to locate data efficiently at the cost of extra storage and write time.	1	3.3%
That includes journals after quality assessment	1	3.3%

This was an open-ended question. The responses received are summarised in the above table. The majority of the respondents answered a few things related to the databases. 6 answered as 'no'.

Q4 – Write the names of the journals you know.

List of journals	N	%
Nature	1	3.3%
Ancient Science of Life 2. AYU (An International Quarterly Journal of Research in Ayurveda)	1	3.3%
1. Journal of Ayurveda and Integrative Medicine (JAIM) 2. AYU – An International Quarterly Journal of Research in Ayurveda	1	3.3%
Ancient science of life	1	3.3%
AYU and JAIM	1	3.3%
Ayu jaim	1	3.3%
Ayu, jam, jras	1	3.3%
CCRAS, IJAM	1	3.3%
Ccras, ijam	1	3.3%
Chemistry of natural compound science of nature	1	3.3%
Chemistry of natural compounds.	1	3.3%
Science of nature		
Current science, Indian journal of medical science	1	3.3%
IJMR, JAIM	1	3.3%
JAIM, AYU	1	3.3%
JCDR, IJMR	1	3.3%

JIA, NIA journal	1	3.3%
Journal of Ayurveda and Integrative Medicine AYU – An International Quarterly Journal of Research in Ayurveda	2	6.7%
Journal of Ayurveda and Integrative Medicine	1	3.3%
Natural medicine	2	6.7%
Nature	1	3.3%
Nature and Science	1	3.3%
Nature, Lancet	1	3.3%
None	2	6.7%
Research in medical science	1	3.3%
Science of Nature, Chemistry of Life	1	3.3%
The Lancet, IJMR	1	3.3%
Times of India, India Today	1	3.3%

This was an open-ended question. The responses received are summarised in the above table. The majority of the respondents answered about the names of the journals they come across. 01 respondent was unable to answer. 1 respondent answered with the names of newspapers.

Q5 - Which section of a scientific paper briefly states the study purpose, methods, main results, and conclusion?

- a. Introduction
- b. Methods
- c. Abstract
- d. Discussion

Which section of a scientific paper briefly states the study purpose+, methods, main results, and conclusion ?	N	%
a. Introduction	1	3.3%
b. Methods	1	3.3%
c. Abstract	20	66.7%
d. Discussion	8	26.7%

Out of 30 interns, 66.7 % answered as abstract, the correct one. Introduction and methods were answered by 3.3 % each. The answer 'discussion' was given by 26.7% of interns.

Q6 - The most appropriate tense to describe methods used in your study is:

- a. Present continuous
- b. Past simple
- c. Future simple
- d. Present perfect

The most appropriate tense to describe methods used	N	%
a. Present continuous	12	40.0%
b. Past simple	12	40.0%
c. Future simple	2	6.7%
d. Present perfect	4	13.3%

Out of 30 responses, 40.0% were correct past tense. Others gave wrong answers; viz present continuous was given by 40.0 %, future simple was given by 6.7 % and present perfect was given by 13.3 %.

Q7 - Which statement best describes a good research question?

- a. Very broad and exploratory
- b. Specific, measurable, and answerable
- c. Based only on personal opinion
- d. Irrelevant to clinical practice

Which statement best describes a good research question	N	%
a. Very broad and exploratory	4	13.3%
b. Specific, measurable, and answerable	26	86.7%

Out of 30 responses, the majority 86.7 % answered the correct one as specific, measurable and answerable.

Scientific writing and publication are important for the development and establishment of Ayurveda. Interns are executive links between theory and practice. Collection of data starts at internship. Hence, they should be aware of the importance of proper documentation, handling the data and its publication. From the survey study, it was observed that the majority of the interns were aware of writing and publication of an article. But their responses were not promising. They were able to answer about superficial information regarding scientific writing and publication. They can be suggested to attend training or workshops in future.

Based on the current study, it was concluded that interns of the government Ayurveda college were aware of scientific writing and publication.

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