

Report on Workshop on Scientific Writing

Date: 21st July – 04th August 2017
Venue: Seminar Hall

Organized by: Dept. of Pharmacy Practice, JSS CoP, Ooty

July 21st, 2017

Inauguration

A 14days workshop on Scientific Writing was organized by the Dept. of Pharmacy Practice, JSS CoP, Ooty for the benefit of the VI Year Pharm D (intern), M Pharm (Pharmacy Practice) students and research scholars of the department. The said program was inaugurated by Prof. K. Elango, Dept. of Pharmacology with the formal introductory note on the importance of scientific writing. He further emphasized the importance of understanding the scientific paper and explained that *“a scientific paper is a written and published report describing original research results”*. The purpose of scientific writing is to communicate research findings to other people. It should be clear, simple and well-ordered communication to transmit. Dr S Ponnusankar, Prof & Head, Dept. of Pharmacy Practice and Program Co-ordinator introduced the definition of the scientific paper to the participants as *“an acceptable original scientific publication containing scientific information”*. A scientific paper must be written in a certain way and it must be published in certain way, as defined by three centuries of developing tradition, editorial practice, scientific ethics and the interplay of printing and publishing procedures. A scientific paper *“demands exactly the same qualities of thought as are needed for the rest of the science: logic, clarity and precision”*. A scientific article presents research results and is written by researchers and aimed at an academic readership.

Orientation – Workshop on Scientific Writing:

DR. D. Raja, Asst. Professor, Dept. of Pharmacy Practice, JSS CoP, Ooty

Science is often hard to read. Most people assume that its difficulties are born out of necessity, out of the extreme complexity of scientific concepts, data and analysis. It is argued that the complexity of thought need not lead to impenetrability of expression; demonstrate a number of rhetorical principles that can produce clarity in communication without oversimplifying scientific issues. The results are substantive, not merely cosmetic. Improving the quality of writing actually improves the quality of thought.

Scientific and research writing is crucial for a career in sciences. Doing research is only half of the picture. If the results of research studies are not published – and where they are published has an important impact also – other researchers can not appreciate the value of the experiments or studies accomplished, they cannot further build on it, the public cannot trust the information and overall science cannot develop and grow.

Nowadays and in most countries, research funding are actually decided and divided based on the number and importance of publications (the importance can be evaluated by the impact factor, citation index or other tools). Participations at congresses such as oral or poster presentations and patent applications are very important too, but original articles, to differentiate from reviews and book chapters, are the most important and decisive factors for scientists. The fact that reviewers, which are experts in the same field of research, have approved the publication of a paper, gives it automatically

credibility and authority. Considering the well-known difficult and time consuming process of revision, research articles are viewed with respect from the scientific community.

Learn how to write a quality scientific paper is thus a key factor in a scientist's career path.

Introduction to Review article

Ms. BS Roopa, Lecturer, Dept. of Pharmacy Practice, JSS CoP, Ooty

Reviews are usually published by experts in the field. Being familiar with the structure and purpose of reviews will help to navigate scientific literature more confidently and sometimes, journal editors will invite scientists to write a review for their journal.

Choosing a Topic

- Choose a topic that is not too broad and not too narrow for the type of review you would like to write. To write a shorter review, pick a narrower topic. But to write a longer review or explore a more general area of interest, choose a topic that is wide enough so that you will be able to find enough articles to discuss.
- Pick interesting topic or researching experience: A review is meant to be a survey of the current state of a field - and the less you know about a field or topic at the outset, the more work you're going to have to do in order to have an authoritative voice that can provide insight about the research that has been done.
- Choose a topic that will be interesting to others whether it's currently receiving a lot of attention, it's a controversial topic, or it's in a well-established field. To contribute to the knowledge base and understanding of other scientists so make sure it centers around a topic that has a good-sized audience

Information to Consider in Your Review: What to Write About

When doing research for the review, here is a list of questions to consider as you read through articles to potentially include:

- What is the thesis or problem being addressed in this paper?
- What are the strengths and limitations of the study? Is there a better way to answer the research question?
- How does the author approach the study - from a theoretical, experimental, interpretive, or clinical (etc.) standpoint? Did they choose the best approach?
- Is the author using an assumed theoretical framework such as, for example, psychoanalytic or developmental? How does this affect the conclusions they draw?
- How does the author engage with other literature in the field? Is literature that both contradicts and supports his/her findings mentioned?
- Did the researchers choose appropriate methods of experimentation and data analysis for the research question?
- Do the conclusions drawn based upon the data present are valid and reasonable? Or are there gaps in the logic or assumptions being made?
- Does this particular research study contribute to the knowledge base of the field around which you are centering your review? Is it worth including the same in discussion, and does it fit to main thesis? Etc.

Structure of Your Review

Your review should follow the following structure:

- Abstract
 - Write this last
 - A summary of the main thesis and the studies examined in the review
- Introduction
 - Introduce the proposed topic
 - Outline the points to be discussed throughout the review
 - Frame the paper relevant to your thesis or area proposed
 - Inform your reader why it is important that you have reviewed the literature in this topic
- Body
 - Can take different forms depending on the topic
 - Break it up into sections if this is helpful (i.e. if you are studying three different methodologies, make into three main sections)
 - Go through all of the literature in detail, in an organized fashion
- Discussion/Conclusion
 - Restate your thesis
 - Wrap up your review by drawing everything together and making sure it is clear what conclusions are drawn about topic or field of study based on the research studies read and analyzed.
- References
 - Make sure your references are formatted correctly and all present
 - This paper is all about the references! Cite everything that discussed.

Preparing Review Article in 18 steps

DR. D. Raja, Asst. Professor, Dept. of Pharmacy Practice, JSS CoP, Ooty

stage	step	
prepare	1. narrow the topic, define a few research questions or hypotheses	<input type="checkbox"/>
	2. search for literature sources, refine topic and research questions during the search	<input type="checkbox"/>
	3. read, evaluate, classify and make notes	<input type="checkbox"/>
	4. redefine the focus and the research questions, define the take-home message	<input type="checkbox"/>
develop structure	5. compose a preliminary title	<input type="checkbox"/>
	6. find a structuring principle for the article (e.g. chronological, subject matter, experimental procedure)	<input type="checkbox"/>
	7. prepare an outline, find headings for the sections in the text body	<input type="checkbox"/>
	8. plan the content of each paragraph in the different sections	<input type="checkbox"/>
write draft	9. prepare tables, concept maps, figures	<input type="checkbox"/>
	10. draft the methods section (if needed)	<input type="checkbox"/>
	11. draft the body sections	<input type="checkbox"/>
	12. draft the conclusions	<input type="checkbox"/>
	13. draft the introduction	<input type="checkbox"/>
	14. draft the abstract	<input type="checkbox"/>
revise	15. revise drafts of different sections, abstract & title, tables, figures & legends	<input type="checkbox"/>
	16. revise citations and references	<input type="checkbox"/>
	17. correct grammar, spelling, punctuation	<input type="checkbox"/>
	18. adjust the layout	<input type="checkbox"/>

Defining the review question – Developing a protocol for a Cochrane Systematic Review

Ms. BS Roopa, Lecturer, Dept. of Pharmacy Practice, JSS CoP, Ooty

The steps to writing a good research question are:

- Specify the specific concern or issue.
- Define what you want to know about the specific concern or issue.
- Turn what you want to know and the specific concern into a question.
- Ensure that the question is answerable.

Essential components in Review article

Ms. Gayathri, IELTS Training Center, Coimbatore

In the medical sciences, the importance of review articles is rising. When clinicians want to update their knowledge and generate guidelines about a topic, they frequently use reviews as a starting point. The value of a review is associated with what has been done, what has been found and how these findings are presented. Before asking 'how,' the question of 'why' is more important when starting to write a review. The main and fundamental purpose of writing a review is to create a readable synthesis of the best resources available in the literature for an important research question or a current area of research. Although the idea of writing a review is attractive, it is important to spend time identifying the important questions. Good review methods are critical because they provide an unbiased point of view for the reader regarding the current literature. There is a consensus that a review should be written in a systematic fashion, a notion that is usually followed. In a systematic review with a focused question, the

research methods must be clearly described. A 'methodological filter' is the best method for identifying the best working style for a research question, and this method reduces the workload when surveying the literature. An essential part of the review process is differentiating good research from bad and leaning on the results of the better studies. The ideal way to synthesize studies is to perform a meta-analysis. In conclusion, when writing a review, it is best to clearly focus on fixed ideas, to use a procedural and critical approach to the literature and to express your findings in an attractive way.

Biomedical literature evaluation

DR S Ponnusankar, Prof & Head, Dept. of Pharmacy Practice, JSS CoP, Ooty

Literature evaluation is a skills that most pharmacists think they possess but also think they could improve. Literature evaluation skills are developed with repeated use, as it is only with practice that pharmacists can learn to identify limitations and determine the internal and external validity of a clinical trial. Pharmacy students typically believe that if it is published, then it must be true, because all articles are reviewed before they are published. However, pharmacy students must learn the art of literature evaluation for the purpose of research, journal club and find limitations with the article.

With the biomedical literature expanding at an incredible rate, literature evaluation skills are critical to determine which articles should change pharmacists' current practice. Pharmacists frequently are faced with the questions during rounds regarding recently published articles and need to have the skills to decide if the results of these trials should be applied to patient care. Similarly, knowledge on drugs for the selection of pharmacy and therapeutic committee, identification of study results of the clinical trial made more difficult.

In this presentation, the method to improve their literature evaluation skills to decide which information to incorporate into their clinical practice and writing research publication.

Narrow the topic, define a few research questions or hypotheses

DR. D. Raja, Asst. Professor, Dept. of Pharmacy Practice, JSS CoP, Ooty

Some strategies to help narrow your topic into something more manageable:

Aspect -- choose one lens through which to view the research problem, or look at just one facet of it [e.g., rather than studying the role of food in Eastern religious rituals, study the role of food in Hindu ceremonies, or, the role of one particular type of food among several religions].

Components -- determine the initial variable or unit of analysis can be broken into smaller parts, which can then be analyzed more precisely e.g., a study of tobacco use among adolescents can focus on just chewing tobacco rather than all forms of usage or, rather than adolescents in general, focus on female adolescents in a certain age range who choose to use tobacco.

Methodology -- the way in which information was gathered can reduce the domain of interpretive analysis needed to address the research problem e.g., a single case study can be designed to generate data that does not require as extensive an explanation as using multiple cases.

Place -- generally, the smaller the geographic unit of analysis, the more narrow the focus e.g., rather than study trade relations in West Africa, study trade relations between Niger and Cameroon as a case study that helps to explain problems in the region].

Relationship -- ask two or more different perspectives or variables relate to one another. Designing a study around the relationships between specific variables can help constrict the scope of analysis e.g., cause/effect, compare/contrast, contemporary/historical, group/individual, male/female, opinion/reason, problem/solution.

Time -- the shorter the time period of the study, the more narrow the focus

Type -- focus topic in terms of a specific type or class of people, places, or phenomena [e.g., a study of developing safer traffic patterns near schools can focus on SUVs, or just student drivers, or just the timing of traffic signals in the area].

Combination -- use two or more of the above strategies to focus your topic very narrowly.

Search Strategy

DR. D. Raja, Asst. Professor, Dept. of Pharmacy Practice, JSS CoP, Ooty

A search strategy is a structured organization of terms used to search a database. The search strategy shows how these terms combine in order to retrieve the best results. Different databases work in different ways, so need to adapt the search strategy for each of the databases. This process is often referred to as "tailoring" the search. Also decide to develop separate search strategies for different aspects of the research. Probably individual need to test the strategies several times, refining them to start to look at the results retrieved from the database.

Topics searched under the strategy to obtain the appropriate response in various databases:

Identifying search terms

- Searching with keywords
- Truncation and wildcards
- Searching for the exact phrase
- Adjacency searching
- Searching with subject headings
- Boolean logic
- Citation searching
- How a search strategy looks in practice

Zotero – Software

Mr. C. Jaikumar, Asst. Professor, Dept. of Pharmacy Practice, JSS College of Pharmacy, Ooty

A personal research assistant: Zotero is the only research tool that automatically senses content in your web browser, allowing you to add it to your personal library with a single click. Whether you're searching for a preprint on arXiv.org, a journal article from JSTOR, a news story from the New York Times, or a book from your university library catalog, Zotero has you covered with support for thousands of sites.

Store anything - Zotero collects all your research in a single, searchable interface. You can add PDFs, images, audio and video files, snapshots of web pages, and really anything else. Zotero automatically indexes the full-text content of your library, enabling you to find exactly what you're looking for with just a few keystrokes.

Practical Experiences:

Participants were made in to group, and they are encouraged to prepare a narrative review paper in consultation with the mentors during the training. The list of topic selected include the following:

Group	Mentor	Members	Topic selected
Group 1 (Unicorns)	Dr S Ponnusankar	Ms. Anju Rose Ms. Sreeja R Ms.V. Thirupavai	1. Rare hematological conditions: a narrative review 2. Rare haematological conditions: patient education

Group 2 (Mario)	Ms. BS Roopa	Ms. S. hema Mr. Rayes Ahmed Mr. Tenzin	1. Evolocumab in combination with statins in CVD risk reduction 2. Altrrocumab in combination with statins in CVD risk reduction
Group 3 (CR7)	Dr D Raja	Ms. Dony Mathew Ms. Aswathy Ms. Anjali	1. Chronotherapy in clinical practice: a review
Group 4 (MU)	Dr. C. Keerthana	Ms. Princy SJ Ms. Sruthy Mr. Gautam N	1. Emerging non-pharmacological therapy for post stroke depression and its future aspects – a review 2. Post stroke psychiatric disorders, screening and management: an overview`
Group 5 (Marvels)	Mr. SR Krishnan	Ms. Reima Ms. Ritty Ms. Dilna Roy	1. Robots: a fine craftsmanship by human for medical care
Group 6 (Minions)	Dr S Ponnusankar	Ms. Tejasree Ms. Nandhini Ms. Steffy	1. Rare neurological syndromes: an overview 2. Talk and die syndrome
Group 7 (Mayo Clinic)	Dr D Raja	Mr. Elmutaz Ms. Liz Mathew Ms. Manju	1. Depression and anxiety in cardiovascular diseases: emerging role of psychotherapy

I take this opportunity to thank the mentors for their valuable time in training our students. I also take this opportunity to thank our Principal for providing us permission to organize this 14 days event at our department.

Dr. S. Ponnusankar

Memorable glimpses of the event of Workshop on Scientific Writing



DR. S. Ponnusankar, Professor & Head, Dept. of Pharmacy Practice and Program Coordinator addressing the participants regarding the importance of scientific writing



Dr D Raja, Asst. Professor, Dept. of Pharmacy Practice and Joint Coordinator – interacting with the participants



Mrs. BS Roopa, Lecturer, Dept. of Pharmacy Practice – addressing the participants



Mayo Clinic – Mr. Elmutaz, Ms. Manju and Ms. Liz Mathew



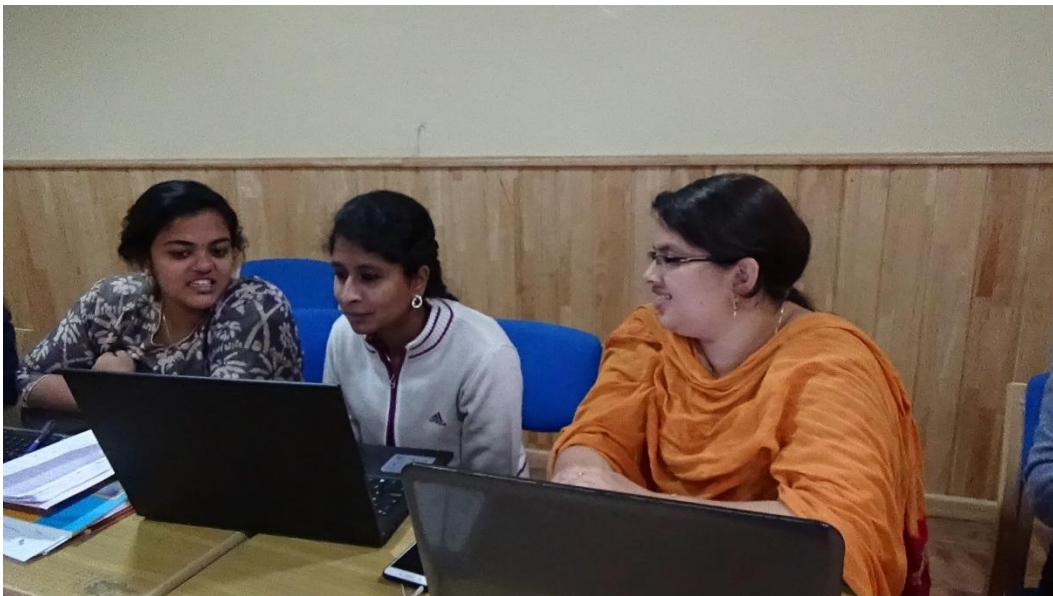
Manchester United – Mr. Gautam Nakka, Ms. Sruthy and Ms. Princy



Marvels – Ms. Reima, Ms. Ritty Augustine and Ms. Dilna Roy



Mario – Mr. Tenzin, Mr. Rayes Ahmed and Ms. S. Hema



Unicorns – Ms. Anju Rose, Ms. Sreeja and Ms. Thiruppavai



CR-7 – Ms. Aswathy, Ms. Anjali and Ms. Dony Mathew



Minions – Ms. Tejasree, Ms. Nandini and Ms. Steffy Stanley



Dr. D. Raja, Asst. Professor, Dept. of Pharmacy Practice and Joint Coordinator of 14 days Workshop on Scientific Writing – in action to deliver the lecture



The organizing and mentoring team of the department
Mr. C. Jaikumar, Dr S Ponnusankar, Dr C Keerthana and Ms. BS Roopa



Working view of the Workshop – Seminar Hall of our institution



Valedictory Remark by the Program Coordinator