

Writing a Review Article: For the Beginners in Research

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Abstract: Review article is one of the most important forms of scientific writing. In the era of ever increasing number of scientific publications, it is essential that timely review articles are written to summarise the important details of the recent research works and relate them to past research done on the similar topic. It is one of the easiest forms of writing and hence, can serve as the start of research career in a medical student or graduate's life. In this editorial, the essentials of how and why to write a review article are discussed.

Key Words: medical writing, case reviews, review articles

1. What is a Review Article?

A systematic review is the process of searching, selecting, appraising, synthesising and reporting clinical evidence on a particular question or topic.

It uses a methodology of clearly-designed questions and methods to identify and critically evaluate relevant research, followed by the collection and analysis of data from the studies that are included in the review. Since the results of a single study apply only to a certain type of patient or a particular clinical setting, a systematic review of many studies on the same subject can provide information that is relevant to a broad range of patients across different clinical settings. It is currently considered the best, least biased and most rational way to organise, gather, evaluate and integrate scientific evidence from the rapidly-changing medical and healthcare literature.

1.1 Importance of Research Reviews

Reviews of research literature are conducted for a variety of purposes. They include:

- Providing a theoretical background for subsequent research
- Learning the breadth of research on a topic of interest
- Answering practical questions by understanding what existing research has to say on the matter.
- To keep update with the latest research
- To avoid duplication of efforts and wasting resources on research topics whose answers are already clear.

1.2 Basic Rules to be followed while writing a Review Article

- 1) *Define the Purpose of the literature review:* The first step in any review is to clearly identify the purpose and intended goals of the review. This is necessary for the review to be clear and implicit to its readers.
- 2) *Recognise the Target Audience:* The group of population to which this article is directed to, must be clearly identified. Some topics may clearly identify the audience by their topic, foreg role of chemotherapy in ovarian tumours will identify gynaecologists as the target

audience, but may also be of interest to doctors of related fields, like oncologists, obstetricians, etc.

- 3) *Search and re- search for the literature:* When searching the literature for pertinent papers and reviews:
 - i. use different keywords and database sources (e.g., DBLP, Google Scholar, ISI Proceedings, JSTOR Search, Medline, Scopus, Web of Science), and
 - ii. look at who has cited past relevant papers and book chapters.
 - iii. Use a paper management system like Mendeley, Papers, etc
 - iv. Use an inclusion criteria so that you can clearly rule out irrelevant or beyond the scope papers.
- 4) *Choose the type of review you wish to write:* There are two types of reviews you can write a mini review or a full review. A mini-review is not necessarily a minor review: it may well attract more attention from busy readers, although it will inevitably simplify some issues and leave out some relevant material due to space limitations. A full review will have the advantage of more freedom to cover in detail the complexities of a particular scientific development. Decision should be based upon not only the target audience and materials collected, but also on the time available to write the article.
- 5) *Be Critical and Consistent:* A good review should not only summarize the data, but also discuss it critically, discuss the methodologies and point out to the gaps yet to be filled. This will help the reviewers in taking up any future research on a similar topic.
- 6) *Writing the review:* In addition to the standard principles to be followed in writing research articles, the process of a systematic literature review needs to be reported in sufficient detail that the results of the review can be independently reproduced. After having read a review of the literature, a reader should have a rough idea of:
 - i. the major achievements in the reviewed field,
 - ii. the main areas of debate, and
 - iii. the outstanding research questions.
- 7) *Feedback:* Incorporating feedback from reviewers greatly helps improve a review draft. Having read the review with a fresh mind, reviewers may spot inaccuracies, inconsistencies, and ambiguities that had not been noticed by the writers due to rereading the typescript too many times. Feedback is vital to writing a

good review, and should be sought from a variety of colleagues, so as to obtain a diversity of views on the draft.

2. Format for Writing Review Article

Box No. 1 Structure of systematic review

- Title
- Abstract
- Introduction
- Main Content
- Conclusion
- Acknowledgement
- References

Your review paper should have the following sections:

- a) **Title:** As for a research paper, this should be short and inform your reader of the major ideas that will be discussed.
- b) **Abstract:** Again this should be written last and should summarize the major points made within the body of your paper.
- c) **Introduction:** It should be short and concise (maximum 1page) and is not given a separate heading from the body of the paper. The purpose of the introduction is to introduce your reader to the ideas that you will be addressing in the body of your paper. In this paragraph, the main objective of the article and the importance of your review article should be clearly explained.
- d) **Body:** In this portion of your paper you will outline the background for your idea and begin to design ideas from the papers you've read in order to build a coherent "thesis". You can use specific heading for each paragraph to help segregate your data into easy to read format.

Once you've developed your headings you can then go back and place topic sentences for each paragraphs of information you wish to convey under the appropriate heading. Each paragraph should have clear, well thought out points, and should contain only the information needed to make or support that point followed by a concluding sentence.

You should include a paragraph on the limitations of the studies included, for example, problems with their sample size, biases and hence the reliability of their result.

Another paragraph can mention the strength and weaknesses of the review method used by you. For example, you included only a few research papers, or missed out on some non English publications, etc.

- e) **Conclusion:** Like the introduction, the conclusion section is not usually separated from the body of the paper, although it can be if it is really long. In this section you should state what the major conclusions were

made in your study. It can also provide implications for future research and gaps that still need to be bridged.

- f) **Acknowledgements:** This section should include people who made considerable impact on your research, people with whom you had fruitful discussions including the librarian who helped in you searching all forms of research papers and even the statistician who helped you in statistical analysis of data .It should be the people who helped you but not to the point of authorship. You must also acknowledge funding agencies and grant numbers, if any.
- g) **References:** Should follow the standard format outlined by the journal in which you will publish. The two commonest systems used are the Harvard (names) or Vancouver (Numbering) systems. You should use a reference programme like Reference Manager or Endnote for storing, retrieving and sorting references and putting them into your manuscript.

Box No.2 Key points to remember

- Make it an integrated compilation of literature, rather than regurgitation of jumbled facts!
- Take notes, including full citations(author's name, journal, date and page number) from each paper as you read it.
- Organize your paper before settling down to write the article. This will help in better compilation of data and ideas.
- Take feedback from a senior or a friend on the article, they may spot some inaccuracies and inconsistencies that were not noticed by the author!

3. Where to Publish?

There are a number of good peer reviewed journals where you can submit your reviews. The editorial team of the journal will go through your article, suggest changes, if any and will decide upon whether to publish the article or not. Many of these journals are pubmed indexed. The entire list of pubmed indexed journals is available on pubmed website. These include British Medical journal, Indian Journal of Medical Research, Elsevier and many others.

4. Future Prospects

In this article, I have tried to give a general background on how to start writing a review article. You can use this as a basic tool when initially writing. But this is only a compilation of few aspects. Some changes may occur with the respect to the topic and area of review article. Remember to always look into other related articles when writing an article to get a broader view.

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