

HOW TO WRITE A JOURNAL ARTICLE?

Khoo Ee Ming *MRCGP, FAMM*

Department of Primary Care Medicine, University of Malaya

Address for correspondence: Associate Professor Dr Khoo Ee Ming, Department of Primary Care Medicine, Faculty of Medicine, University of Malaya, 50603 Kuala Lumpur, Malaysia. Email: khoem@um.edu.my

Khoo EM. How to write a journal article? Malaysian Family Physician. 2006;1(2&3):86-87

Writing a journal article may seem daunting for a novice, as often many questions are raised such as how to write, what format to use, which journal to send to, how to improve the chances of being accepted and what to expect after sending the article off to a journal. In this research notes series, much of the required contents of an article had already been discussed and now is the time to translate the facts of a study into a scientific paper so that the findings of the study can be disseminated and shared by many.

Before starting to write an article, select the journal you want to send to depending on your subject and your target audience. It is very important to read the "instructions to authors" of the journal that you intend to send to and follow it closely as nothing irritates the editors more than an article that has not followed the format nor the instructions requested. Some editors may reject the article straight away when this occurs.

The following gives a brief outline on writing the different sections of an original paper.

Title is probably the most important part of the paper as readers will decide whether to proceed to read your article or not pending on it. It should describe the research and is short, informative and concise. Avoid using a title starting with "A study of..." as this is obviously a study. Interesting title attracts readers. It is analogous to marketing a product to reach out to your readers.

Authors. Each author should have made significant contribution to the design, analysis, and writing up of the paper to take public responsibility for its content.¹ The first author is one who has major input into the study and prepares most part of the manuscript.

Abstract. Different journal may specify different abstract format. Follow the instructions for authors. The abstract normally consists of background, objective, methods, settings, designs, results and conclusions. Usually this is limited to 200-250 words. Summarise new and important findings and main conclusion of the study. Do not use phrases such as "this will be discussed..." or "further detail

will follow..." because abstract are more likely to be accessible to readers than the full text article.

Keywords. Following abstract, usually 3-10 key words are required that are usually MeSH headings so that it will ease the process of indexing and cross-referencing. The words usually convey the research studied or important concepts, methods, population or setting of the study.

The main text usually follows The IMRAD system, which is the basic of writing a scientific paper. IMRAD stands for **I**ntroduction, **M**ethods, **R**esults **A**nd **D**iscussion. It deciphers different questions posed. In the introduction, we answer and explain "Why did you start (the study)?", in methods, explain "what did you do?", in results, detail "what did you find?", and in discussion, explain "what does it all mean?"

Introduction. In this section, describe in brief the background of the research topics with relevant up to date review of key articles in literature. Explain the reasons for your study as well as its relevance. State the research question, objectives and rationale of the study.

Methods. Describe in detail your methodology that includes research design, settings, population studied, inclusion and exclusion criteria, the time that study was done, the instruments used to measure outcome, recruitment or data collection processes, and approval from ethics committee. State the statistical software used where applicable as well as the statistical tests employed. If the study is on drugs, use generic names.

Results. Provide all relevant results for readers to assess the validity of the conclusions. Present the results that answer the research question early follow by secondary results. For quantitative studies, provide details of response rates. Describe the sample characteristics. Use text, tables or graphs to present data in a clear and organised manner so that it is easier for the readers to comprehend. Different results may present better in different forms. Tables are useful in summarising findings. Do not use tables or any graphic forms if the data can be

written in a few sentences in running text. Data also should not be repeated in different format, as it does not provide any added information. Label all tables and figures or illustrations.

When report on statistical analyses, state the statistical tests used, such as chi-square test, t-test, ANOVA or others. State the test statistic, degree of freedom, and use confidence intervals whenever possible instead of just p values to indicate precision. When presenting p value, some journals expect the exact figure to be quoted while others prefer nearer quotation such as $p < 0.05$, or $p < 0.01$, or $p < 0.001$. This is usually provided in the "instruction to authors".

For qualitative study, illustrative quotes and themes are described in this section.

Discussion. This usually begins with a summary of the main findings, followed by the meaning and implications of these for clinicians or policymakers. Comparison is made with existing literature. Explain exceptions and clarify unsettled points. State the strengths and limitations of the study and implications for future research or clinical practice.²⁻³

Conclusion. State your conclusions with a summary of evidence for each one. Keep it concise.

Acknowledgement. This normally includes all those who have helped with and contributed to the study apart from the authors of the paper. Funding body and ethics committee giving approval should be acknowledged. Declare if there are any competing interests.

References. Most journals would ask for references to be presented in Vancouver style.¹ Again follow the "instructions to author" that will detail how the references should be written for each journal you are submitting.

Several drafts are usually written before a manuscript is submitted. It is important to check all parts of the results as well as references quoted. Use short words, sentences and paragraphs and avoid jargon. Always keep the readers in mind, and ask yourself if the paper is easily comprehensible, or if you have conveyed your main points across.

REFERENCES

1. International committee of Medical Journal Editors. Uniform requirements for manuscripts submitted to biomedical journals: Writing and Editing for Biomedical Publication 2006. [\[HTML\]](#) [\[PDF\]](#)
2. British Journal of General Practice. Writing papers for the BJGP. [\[HTML\]](#)
3. Smith R. The inside view on writing for medical journals. [\[HTML\]](#)

Writing

"Avoid carrying unpublished knowledge to the grave."

"The difficult is that the young write too much, the mature write too little. There is too much green fruit sent to market, and the fruit of too many of the fine trees is never plucked at all."

William Osler (1849-1919)

Research and its misconduct

"The main emphasis in responding to the problem of misconduct should be on raising the overall level of scientific integrity rather than on investigating suspected cases—although there have to be good systems for investigating, judging, and reporting cases."

Smith R. Research misconduct: the poisoning of the well. J R Soc Med. 2006;99:232-7.

"We need less research, better research, and research done for the right reasons."

Altman DG. The scandal of poor medical research. BMJ. 1994;308:283-4