

# Writing an acceptable journal article

Emmanuel Ademola Anigilaje

Department of Paediatrics, Faculty of Clinical Sciences, College of Health Sciences,  
University of Abuja Teaching Hospital,  
Abuja, Nigeria

**Reviewed by:**  
Princewill PI Nwajiobi-Princewill  
Department of Medical  
Microbiology  
National Hospital, Abuja,  
Nigeria.

**Dr. Ojah Samuel**  
Ministry of Defence Headquarters,  
Abuja, Nigeria  
samojah@gmail.com

**\*Correspondence:**  
Emmanuel Ademola Anigilaje  
Department of Paediatrics,  
Faculty of Clinical Sciences,  
College of Health Sciences,  
University of Abuja, Abuja, Nigeria  
demolaanigilaje@yahoo.co.uk

Received:  
Accepted:  
Published:

## Abstract

The writing of scientific manuscript for publishing in a medical journal is an art of medicine that is learned, and which also gets better with constant practice. Unfortunately, most medical personnel are bereft of the fundamental knowledge, upon which to build on, as academic writing is rarely taught in most medical schools and/or colleges of post-graduate training. Fortunately, once an author manages to get a manuscript published, he or she is motivated to even publish more articles. This article is a summary of opinions of accomplished authors on the principles of writing an acceptable journal article. The author hopes that readers would find this article useful as a quick guide in their ever busy academic lives.

**Keywords: Art, Writing, Acceptable, Manuscript**

## A. Introduction

After a researcher has conducted a study, he is often faced with the challenge of publicizing the results in a scientific journal. While conducting a research in an institution may be a private matter, publishing the work of a scientific research is not. The content of a published article not only reflects the quality of a good research effort but also the intellectual discernment of the researcher [1]. Although the good content of a manuscript may not guarantee its publication in a good journal, publishing a poorly written manuscript reduces the impact of a good research effort, and often portrays the researcher in a bad light. This concern is even being underplayed as many badly written articles still get published in the so-called predatory journals [3]. Therein lays the problem, as most researchers are not prepared for this task of writing and publishing a research work. Even when researchers have been exposed to hands-on training on academic writing, they soon learn that publishing an article comes with constant practising, learning gradually on the task, and getting better over time [2]. "Any piece of work that is not published is never done" is a common saying, but the increasing number of medical journals available nowadays does not guarantee that a scientific work will be published. "Publish or perish" is an axiom in the academia and it is expected that researchers would strive to publish their research efforts for career advancement and promotion [4]. It is pitiful to see hardworking members of faculties stagnating in their positions because they find it difficult to break the ice of academic writing. Because scientific paper has a required structure and style, it also requires good skills in both structuring and phrasing [4]. Although, there are many available documents on scientific writing and publishing, the 'Uniform Requirements for Manuscripts Submitted to Biomedical Journals: Writing and Editing for Biomedical Publication' [5] and the "Writing Tips Series by Kotz and Cals" [6-17] are of particular interest for their succinctness. While it may be difficult to give a straightaway answer to what constitutes a good manuscript that is worthy of publication, most editors and reviewers agree that a good manuscript should be clear, coherent, focused and concise [8]. The purpose of this article is to remind authors about the fundamentals of writing an acceptable article, providing the tips required for authors to satisfy editors, and peer-reviewers of manuscripts of reputable journals.

## B. The prerequisite

According to Borja [18], a prospective author needs to answer the following 6 questions in series, before embarking on writing a manuscript for a scientific journal:

**1. Why do I want to publish this work?** It is good for a researcher to ask himself why a work should be published. A worthy work is the one that is new and which is relevant to a contemporary medical issue. A study is also worthy of being published if the work can provide solutions to some difficult problems.

**2. What type of manuscript do I want to write?** Manuscripts are generally either one of these three types; full articles/original articles ; letters/rapid communications/short communications; and review papers or perspectives. Often, it is the content and focus of a research work that would determine the type of manuscript that can be written from such work. Full articles/original articles are substantially completed pieces of research that are of an important significance. Letters/rapid communications/short communications are short, usually, serves the purpose of a quick and early communication of significant and original advances in a field. Review papers or perspectives tend to summarize recent developments on a specific hot topic, highlighting important points

ACCESS  
THIS ARTICLE  
ONLINE



Quick  
Response  
Code



Website

<http://www.nmafctjournal.org>

that have been reported and introduce no new information. Review papers are normally solicited for, from experts in a particular field, and often by an invitation by a journal.

**3. Choose the target journal.** It is wise to consult the journal of interest on guidance on instructions to the authors and to also look out for recent issues of the journal. The recent issues of a journal will give a clue as regards the scope of the author's work and if the work is relevant to the topics and the types of articles accepted in the journal. Also, there is the need to consider the rejection rates of the journal as this may be helpful in making an informed decision about the possibility of acceptance by the journal. Local information will probably find more relevance in a local journal!

**4. Pay attention to journal requirements in the "Guide for Authors".** Once the journal for submission is selected, an author needs to know the "Guide for Authors" of such a journal. A prospective author must pay close attention to the editorial guidelines, submission procedures, and article processing fees, copyright issues and ethical guidelines. Authors must learn to apply the "Guide for Authors" even for the first draft of the manuscript, using the proper text layout, references citation, nomenclature, figures and tables, etc. Most journals also make a provision for a checklist to assist authors in keeping to the guide before a manuscript is submitted.

**6. Pay attention to the structure of the paper.** Each journal has a structure that is expected to be followed for each type of manuscript. It is expected that an author will keep strictly to the structure stipulated by the particular journal. The information regarding the structure expected of a manuscript is often contained in the journal's "Guide for Authors".

**7. Understand publication ethics to avoid violations.** It is expected that authors must comply with publication ethics at all times. Authors must avoid plagiarism, data fabrication and falsification, and improper use of human subjects and animals in research. Stealing another author's ideas or wording without proper attribution is also not good.

### C. Structure of a manuscript

Often, a manuscript is structured in the form of the **IMRAD** acronym [18, 19] which answers the questions below:

**Introduction:** What did you/others do? Why did you do it?

**Methods:** How did you do it?

**Results:** What did you find?

**And**

**Discussion:** What does it all mean?

Over the years, the IMRAD has been expanded to include the prefix "TAA" which stands for Title, Author(s) and Abstract, as well as the suffix "AR" which connotes Acknowledgment and References [19]. Other variations include IRADM with Method at the end, and IMRADC with Conclusion section [19].

#### Title:

The title of an article is expected to contain the fewest possible words that adequately indicate the contents of the paper [7, 19]. It is specific, does not include abbreviations and should be helpful in literature searching. A good title should avoid redundant words [7, 19]. While some journals also require that an article should contain a particular number of words, some insist that authors should also have a running title, which is a short version of the main title, as this often appears at tops of pages of the article [19].

#### Abstract:

The abstract summarizes the article. It is widely read and it

gives editors and peer reviewers their first impression of the paper. The abstract is also structured like the paper and it is a sort of a mini-IMRAD/C [19]. The Introduction talks about what is known and why the study is needed. The Methods states what is done. The Results lists what is found and the Discussion/Conclusion describes what the result means [7]. The abstract must be consistent with the body of the paper and should be understandable without the paper [7, 19]. It should state the objective of the study and the results section should commence with the answer to the research question [7]. When reports contain percentages it should also contain the sample size as well [7]. Effect sizes should be presented with confidence intervals [7]. It is not expected to include references and tables or figures and should be carefully revised before the paper is submitted [7, 19]. Most journals also expect the abstract to come along with six to eight "Keywords" which are listed immediately below the abstract [19]. The keywords contain the main topics of the article and it is valuable at it contains the main topics of the article. Keywords aid in indexing and searching for the topic of the abstract and as such should not contain terms in the title [19].

#### Introduction:

The purpose of the introduction is to provide a basic background (what the topic is all about) of the study so that the readers can understand the article [19]. A good introduction enables the readers to appreciate the importance of the research. It talks about relevant previous works on the subject [19]. It identifies the question or questions that the research addresses (gaps in existing knowledge), and it also enumerates the hypothesis or hypotheses that the researchers tested [19]. The introduction may be short or long depending on the field. It is usually long if it contains some literature review [19]. Generally, the length of the introduction is about 10-15% of the article's total word count [8]. In specialized journals, the introduction can be highly technical with the assumption that the readers are an already knowledgeable audience. The introduction is typically funnel-shaped, moving from general to specific [8].

#### Methods:

The method section when well written enables other researchers to replicate the study so as to evaluate the results of the study and determine whether the conclusions drawn are valid [9, 19]. The method also allows other researchers the capacity to do further research on the topic [9, 19]. The basic information in the method includes an overview of study design, identification of equipment, organisms and reagents used (and their sources), the populations and setting of the study, approval of human or animal research by an appropriate committee, data collection and the statistical methods [9, 19]. Readers may be referred to the details of the method already explained in another article which is part of the same large research project. Method also includes tables and figures and may contain subheadings. The Method is written in past tense [9, 19].

#### Results:

The result section is the core of the article. It should be logically organized starting from the most important to the least important and should be matched with the method section. It is structured roughly into recruitment/response, sample characteristics, primary analyses, secondary analyses, and ancillary analyses [10]. Estimates should be presented with 95% confidence intervals [10]. The Result often includes tables, figures, or both and should summarize findings from the study. Tables and figures should emphasize important findings rather than providing data in great detail [12]. Each table or figure in the article should be mentioned. Results should be stated but not comment upon (unless there is a combined result and discussion).

The title of the table or figure should reflect what is shown, and the tables/figures should be self-explanatory [12]. Tables/figures should be designed in a way to make them clear and easy to read [12]. The result should be written in past tense.

#### **Discussion:**

The discussion section should begin with a brief summary of the main findings and should answer the question(s) stated in the introduction (or address the hypothesis or hypotheses stated in the introduction [19]. It should highlight the strengths of the study (i.e., superior methods, extensive data, e.t.c) [19]. A good discussion also contains the limitations of the study (small sample size, short follow-up, incomplete data, possible sources of bias, problems with experimental procedures, e.t.c.) as it is better for the author to state the limitations than for peer reviewers and readers to think that author is unaware of them [19]. The author should also mention if the limitations will not affect the conclusions of the study [19]. The discussion section should compare the relationship of the study's findings to those of other research describing similarities to previous findings/studies, differences from previous findings, and the possible reasons for similarities and differences [11, 19]. This section also contains the applications and implications of the findings of the study in terms of applicability in medical care and public health [19]. The author(s) can also describe the relationship of findings to theories or models, whether or not the findings support or refute them and may even offer modifications. This section should also suggest if further research is needed to address questions still unanswered and/or address new questions raised by the findings. In general, discussion moves from specific to general, rather like an inverted funnel (opposite of introduction) [11, 19].

#### **Conclusion:**

This section may come as part of the discussion or may be separated in some journals. It reinforces the main findings of the work and seeks to answer the research questions and hypothesis [19]. While it makes a practical recommendation based on the validity of the tested data accruing from the study, generalization must, however, be avoided [19].

#### **Acknowledgement:**

Some journals are structured to contain the acknowledgement section. In this section, authors are expected to recognize people who contribute to the work in one way or the other but who did not meet authorship criteria. Authors must also see to it that anyone mentioned in the acknowledgement agrees to be so named. This section also contains the list of any supporting grants and institutions.

#### **References:**

The purposes of references include giving credit to others for their work, adding credibility to the author's work by showing possession of valid information sources, demonstrating that the work is related to previous work and helping readers to find further information [19]. It is important that references are accurate and authors should accurately state what the cited material says. Articles that are not read should not be cited. It is the author's duty to ensure that all information in the citation is correct in terms of author(s) list, article title, journal title, volume, year and pages. Citation of references should also follow the styles that are peculiar to the journal for each type of reference from a published article, textbooks, websites, etc. Authors should use their own words to describe facts derived from references and copying and pasting should be discouraged [13]. If there is a challenge of selecting references out of many options, then preference should be given to reference that has a good level of evidence, open-access, recent year of publication and those published in target journal [13]. Authors can also make use of referencing soft

wares including EndNote, Reference Manager, RefWorks and Zotero [18]. Carefully check for 100% compliance with journal's style of referencing and avoid needless mistakes [13].

D. Other issues involved:

#### **Determining authorship:**

This often may be a cause for disputes and in some cases, legal litigation if not well handled. Authorship, including lead authorship, must, therefore, be determined at the formative stage of any manuscript. To qualify for authorship [14], authors should have: (1) Contributed substantially to the conception and design, acquisition of data, or analysis and interpretation of data; (2) contributed to writing the paper or revising it critically for important intellectual content; and (3) given final approval of the version to be published.

The lead author should also engage other co-authors in the response to queries raised by the reviewers and the editors. Co-authors should also meticulously check their names, initials, and affiliations for correctness before the submission of the manuscript.

Cover letter:

Some journals request authors to submit a cover letter together with an initial manuscript at the submission stage. Often, the journals will enumerate what is expected to be contained in the cover letter. A good cover letter will contain the type of article (original article, letters), identifies the submitted work by its title and authors) and explain the importance of the work in its field. It will put the manuscript in proper context as to whether part or whole of it has been presented at a conference or has been partly published. A cover letter may also recommend reviewers and exclude certain potential reviewers and should explain the suitability of the manuscript in the targeted journal.

#### **Submitting the article:**

It is important to read the manuscript over and over again before submitting the manuscript [16]. Author should check if the journal has a checklist for submission and adhere closely to it. The steps stipulated by the journal's online submission system should be adhered to. Acknowledgement of receipt of the manuscript and a close monitoring of the manuscript are important and should be the responsibility of the submitting author [16]. There is always an opportunity to seek an audience with the editor if one thinks that there is a delay in the review process.

#### **Responding to reviewers:**

Often times, authors are requested to respond to queries raised by the reviewers. This should be viewed as a good sign, and a step towards the acceptance of the manuscript. Authors should not be disappointed as the best article is the one whose manuscript has been thoroughly critiqued. Authors eventually find out that responses to the queries raised by the editors and reviewers eventually add to the quality of the manuscript in contents and in focus. Authors will do well to provide a point-by-point response to all the reviewers' comments [17]. Responses should be structured as author's response to the reviewer's, and also track the changes to the paper with a marked revision at the appropriate places in the manuscript [17]. In a case of rejection, authors would quickly improve on the manuscript based on the reviewers' comments and resubmit the new version to a different journal.

The lead author must involve other co-authors at revision and should also get their approval for re-submissions [17].

## E. Conclusion

In conclusion, like other art of medicine, writing and publishing an academic manuscript gets better with constant practice, hard work, and perseverance. The first step is to get one manuscript published. Soon, the urge to publish more articles becomes addictive. A beginner author will soon become an editor of a reputable journal. This article has made the attempt to guide academic writers in what it takes to write an acceptable journal article. There is much information available on how to write an acceptable journal's manuscript [1-19]. Readers will always find this information useful to guide them in this art of academic writing.

## References

1. Kotz D, Cals JWL, Tugwell P, Knottneru JA. Introducing a new series on effective writing and publishing of scientific papers. *J Clin Epidemiol* 2013;66:359-60.
2. Kliwer MA. Writing it up: a step-by-step guide to publication for beginning investigators. *AJR* 2005; 185:591-96.
3. Beall's List of Predatory Journals and Publishers. 2016. Retrieved on 13th October, 2017 from <http://beallslist.weebly.com/>
4. Sengupta S, Shukla D, Ramulu P, Natarajan S, Biswas J. Publish or perish: The art of scientific writing. *Indian J Ophthalmol* 2014; 62(11): 1089-1093.
5. Uniform Requirements for Manuscripts Submitted to Biomedical Journals: Writing and Editing for Biomedical Publication. *J Pharmacol Pharmacother* 2010; 1(1): 42-58.
6. Kotz D, Cals JWL. Writing Tips Series (Effective writing and publishing scientific papers- part I: how to get started). *J Clin Epidemiol* 2013; 66:397.
7. Kotz D, Cals JWL. Writing Tips Series (Effective writing and publishing scientific papers- part II: title and abstract). *J Clin Epidemiol* 2013; 66:585.
8. Kotz D, Cals JWL. Writing Tips Series (Effective writing and publishing scientific papers- part III: introduction). *J Clin Epidemiol* 2013; 66:702.
9. Kotz D, Cals JWL. Writing Tips Series (Effective writing and publishing scientific papers, part IV: methods). *J Clin Epidemiol* 2013; 66:817.
10. Kotz D, Cals JWL. Writing Tips Series (Effective writing and publishing scientific papers, part V: results). *J Clin Epidemiol* 2013;66:945.
11. Cals JW, Kotz D. Writing Tips Series (Effective writing and publishing scientific papers, part VI: discussion). *J Clin Epidemiol* 2013;66:1064.
12. Kotz D, Cals JWL. Writing Tips Series (Effective writing and publishing scientific papers- part VII: tables and figures). *J Clin Epidemiol* 2013;66: 1197.
13. Kotz D, Cals JWL. Writing Tips Series (Effective writing and publishing scientific papers- part VIII: references). *J Clin Epidemiol* 2013; 66:1198.
14. Kotz D, Cals JWL. Writing Tips Series (Effective writing and publishing scientific papers- part IX: authorship). *J Clin Epidemiol* 2013;66:1319.
15. Kotz D, Cals JWL. Writing Tips Series (Effective writing and publishing scientific papers- part X: choice of journal). *J Clin Epidemiol* 2014; 67:3.
16. Kotz D, Cals JWL. Writing Tips Series (Effective writing and publishing scientific papers- part XI: submitting a paper). *J Clin Epidemiol* 2014; 67: 123.
17. Kotz D, Cals JWL. Writing Tips Series (Effective writing and publishing scientific papers- part XII: responding to reviewers). *J Clin Epidemiol* 2014; 67: 243.
18. Borja A. Six things to do before writing your manuscript. 2014. "How to Prepare a Manuscript for International Journals". Retrieved on 13th September, 2017 from <https://www.elsevier.com/connect/six-things-to-do-before-writing-your-manuscript>
19. Barbara G. Workshop on Writing and Publishing. Journal Articles. Capital Medical University. 2017. Retrieved on 13th September, 2017 from [www.authoraid.info/uploads/filer\\_public/c1/74/c174fbc2.../core\\_slide](http://www.authoraid.info/uploads/filer_public/c1/74/c174fbc2.../core_slide)

## Copyright Information

The copyright on any article in this journal is retained by the author(s). The author grants the journal the license to publish the article, and to identify itself as the original publisher. The journal will also be licensed under a Creative Commons Attribution 4.0 International License that permits use, distribution and reproduction in any medium, provided the original work is properly cited.