

Chapter-13

Principles of Scientific Publishing and Medial Writing

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If you wish to reach your destination, it is extremely important that you are on the right path. Similarly if you wish to win the Publication Game, it is important that you not only know the rules of this game but also follow them in letter and spirit. First and the foremost important rule is that one must carefully read and follow the instruction for authors of the journal in which one wishes to submit the manuscript which will minimize the trauma to the manuscript and enhance its chances of acceptance. It is the common sense which guides one in this field but unfortunately as they say, commonsense is not so common and there is no university in the world which awards Degree in commonsense. It is the adherence of the basic principles which greatly helps any form of writing.

Why Write:

There are some intrinsic and some extrinsic reasons why one should write. The intrinsic reasons include that one wishes to share knowledge, one wish to write for career advancement, to increase status, wish to get colleagues approval. For some writing is a pleasure but then sometimes one also wishes to write to meet a challenge.¹ Then there are some extrinsic reasons. This includes academic pressure, one wish to demonstrate commitment to patient care, to improve practice, to reflect advance in medical technology, to monitor, evaluate changes in healthcare delivery system or there is an obligation to patients in a multi-professional team based practice.

Basics:

1. **Prepare yourself for writing:** Write every day to develop good writing flow. Before writing, think of a study question and hypothesis. Adhere to scientific writing ethics, carefully read instructions for authors of the journal you wish to send your manuscript for publication to know their requirements. Remember there is no quick solution to learning and to write well, it is time consuming and also requires great deal of effort.
2. **Develop a reading habit:** It is generally considered that in order to write one page one has to read about one hundred pages. Muslim world in general is not considered a reading community and this is one of the reasons that the contributions from the whole Muslim world put together to the world medical literature is very negligible. According to reports over eight thousand medical journals are published worldwide. However, only 10-15% of the material which appears in these medical journals will subsequently prove to be of any lasting value.
3. Remember the main purpose of writing is to communicate a message. As such every effort should be made to do it Simply, Clearly and concisely and do it in an interesting style. Remember uninteresting, inaccurate, complicated and impersonal write-ups often face criticism.
4. Everybody has his/her own best time of writing. Try to find out that. Locate a quiet corner in your home where you can sit without being disturbed which will enable you to concentrate on the project. When you start writing, it comes in a wave and if you are constantly being disturbed, this flow will get disturbed.
5. People have lot of inhibitions to writing and one of them is that others will criticize it. Hence, be prepared to face criticism and do not be afraid of it. An eminent physician often used to say that *“Those who are dead and do nothing have no critics”*.
6. One of the most often asked question by the authors is that when will their manuscript get published or how much

times it takes to get published. It is difficult to answer this question as it all depends on the quality of research works and the manuscript. It just amounts to like discussing the sex of the baby before proper engagement. For a successful outcome of a pregnancy it is important that there should be good antenatal care, the expectant mother is being looked after properly, gets proper nutrition, is saved from anxieties, worries and gets full support of the husband and the other family members who must be caring and supportive. Failing which the consequences are hazardous like abortion, intra uterine death, congenital malformations etc. Similarly in scientific writing from planning to writing and submission for publication, there are numerous steps which have to be taken correctly. Any mistake at any level is likely to create difficulties and problems which will be difficult to surmount if one is not careful throughout. Unfortunately the authors particularly the new ones are not aware of all these steps nor it is taught in the medical school's curriculum though some institutions have now included research in their training programme and have also taken other important measures to acquaint the medical students who are exposed to research methodology and scientific writing including literature search during their training.

7. Do not forget to mention the Place and Timing of the study. In some cases the authors are not aware of its importance and do it un-intentionally but sometimes the authors do it intentionally. The reason is that it is important to ensure that any research gets published within five years after which no good quality peer reviewed journal will accept such studies though there are some exceptions. As such if someone had done some research and did not publish it but suddenly he or she is required to publish some papers as a requirement for selection, promotion, they try to prepare a paper from that research done many years ago. But over the years, numerous development take place and it may become irrelevant or may have lost its utility which results in rejection of these manuscripts. To avoid this, the authors

do not mention the time and place of study but during peer review and editing, once it is detected, it could result in rejection of the manuscript.

8. While planning for writing, ask yourself some key questions. What is the central idea of your study and what message it contains? What is the purpose of your writing? What is depth and breadth of your writing? What are the Format, Structure and Style of your writing? Always include a publication strategy because unless it has been published, it has not happened and no one is going to believe you and no one is going to give its reference and you won't get any credit. Remember original articles are the largest category of published papers.
9. Make writing a fun, a habit and not punishment. Use short words and short sentences. Convey just one message per manuscript. Do not start a new sentence with AND and BUT. Similarly do not start any new sentence with figures. Like 6 patients should be written as Six patients if you are starting a new sentence.
10. When your manuscript is under process of publication with any of the journals, and if you have changed your e mail address, do communicate it to the journal so that you get the feedback in time. Otherwise the journal will keep on sending the feedback on your old e mail address, you won't get it and when you will enquire from the journal after a few weeks or months, only then you will find out that what has been the problem. This way you will waste some very precious time.

Important Principles:

11. Write for the Readers and not for the Editor or Reviewers.
12. To ensure Clear Writing, Know what you are writing about? Pick just one word to describe it and then use that word as your subject. Use precise verbs and plain language to tell the readers the Truth.
13. ***Avoid plagiarism:*** These days numerous software's are available and it takes just a few minutes and the full plagiarism report is ready. It gives minute details with

percentage from where the material is copied and what percentage. All good peer reviewed biomedical journals screen all manuscripts they receive for publication before they are sent for external review.

14. **Literature Search:** Do proper literature search on the topic you wish to write? There are numerous tools to do literature search. Choose authentic, reliable databases like Medline, PubMed Central, Web of Sciences Science Citation Index Expanded known for its Impact Factor, Google Scholar etc.^{2,3,4,5}
15. Make sure that most of the references are latest, relevant pertaining to the last five years.
16. For an original article, ten to fifteen latest, relevant references are considered good enough while for Case Reports and Special Communications. Letters etc., five to eight latest references are considered enough. Reviews usually have too many references and one has to look at the Instructions for authors of the journal for which you are writing to know the maximum number of references they require. Hence remain within those limits.
17. References from peer reviewed journals are preferred. Second preference is given to books. Avoid giving reference to websites unless it is essential. In case of website reference, do not forget to mention the date on which it was last accessed.
18. Mark references in the manuscript in order i.e. 1,2,3,4,5 and so on. Any reference can be repeated but any new reference must come in order. Once the manuscript is finalized, before submission, re-check the references in the manuscript whether they are in order and they must tally with the references list at the end of the manuscript.
19. Some authors use different software's to write references like Endnote etc. In such cases, while revising the manuscript or doing corrections, at times these references get disturbed. Hence, it is essential to re-check all of them to save any embarrassment later.

20. Role of the statistician in any study is extremely important. Consult and involve the statistician when you are planning the study. They will guide you about the sample size and will also be helpful in analysis and interpretation of the data. Now some software's are also available for data analysis. The authors cannot become statistician but they ought to know certain basic statistics. The statisticians will do this job for you either on payment or they might be content with being listed as one of the authors. They are eligible for authorship provided they make significant intellectual contribution to the study.
21. **Data Collection:** While collecting data, one often has to prepare a Pro forma. Different other tools like Monkey are also available to get data. (Details are discussed in another chapter in this book) While preparing the Pro forma for data collection, make sure that you have not missed any information. Take your time to finalize the Pro forma, consult your colleagues and Peers because if you miss it at this state, later the patient or subjects may not be available to collect additional information.
22. Make sure that the Tables and Illustrations in the manuscript have proper Headings and Foot Notes explaining what information they contain. Tables and Illustrations should be prepared in such a way that they convey the information in Stand Alone position and the Readers do not have to consult the text to know what it means or what information does they convey.
23. Do point out where you wish these tables and illustrations to be placed in the manuscript and the editors try to place them there and nearby though at times it may not be possible due to various technical reasons.
24. There are different stages from Writing to Publication which includes forming the original Idea, carrying out Research, Choosing the Journal or Publishers, Writing the paper and submitting it. The manuscript may be Rejected or the

authors may be asked to Revise and Resubmit. Respond and improve the manuscript taking guidance from the Reviewers Comments and Suggestions and then Re-submit. Some Journals require that while Revising the manuscript the authors must highlight the changes made in the formatted file which they send and also require that the authors submit a point by point response as to how they have responded to the various points raised by the Reviewers and suggestions made. It is very helpful for the Editors and often accelerates the review process. Most often if the authors have satisfactorily responded to most of the points raised, the Editors accept these manuscripts for further processing and do not feel the need to send it to the Reviewers again. However, if in the First Round of Review, the manuscript needs extensive revision, such manuscripts are sent back to the Reviewers' again for final Evaluation which may take a little extra time. The manuscript may be finally Accepted which is just like Music to the ears of the authors something for which they may have been waiting for so long.

25. ***Initial Internal Review:*** All good peer reviewed journals would give the authors initial response within a week or fifteen days after initial internal review whether they are going to accept it for further processing and external review. The minor deficiencies if any are also pointed out and the authors are asked to make them up immediately. It saves lot of time of the authors and they can submit it to some other journal. External peer review normally takes two to four months' time depending on the facilities available with that particular journal, their Reviewers Data Base and the number of submissions they get. Ideally one must plan at least for five to six months from submission to acceptance and publication. It is not only the Authors who are keen to get it published at the earliest but the Editors are also keen to publish Good quality research as early as possible so that they can get maximum Citations which play a vital role in the calculation of Impact Factor of the Journal.

26. Always support your statement with proper reference. For example, if you write “There are twelve million people who suffer from hypertension in Pakistan, no one is going to believe it unless it has a proper Reference. On the other hand when you write:

Example: “National Health Survey by PMRC in 1998 reports that 17.9% of all adult over age of fifteen years suffer from hypertension. This means there are twelve million people suffering from hypertension in Pakistan” and then give proper reference, it is correct. Till such time that another National Health Survey is conducted, it will hold good though one can add that since then the number of people suffering from hypertension may have increased further.

27. In scientific writing, one has to be specific as no vague statements are accepted.

Example: “Majority of the patients in this study were in the younger age group” is not a valid statement because in one hundred patients, 65,76 and 85 are all majority and what age group will be considered younger, is not clear. On the other hand if the author writes “Hundred patients participated in this study. Sixty five of them (65%) were in the younger age group i.e. 5-15 Years of age. This is correct as there are no ambiguities the majority and the younger age group both has been clearly defined.

28. While defining patients belonging to different class’s i.e, Poor, Middle Income and Affluent class, always use the monthly Income index. The World Bank has figures of per capita income of every country which should be used as guidance and it must be clearly defined in the manuscript.

29. **Avoid duplication and Repetition:** Information which has been given in the text should not be repeated in tables or illustrations. Similarly information covered in Tables and illustrations should not be repeated in the text. One can just give a passing reference like most of the patients were suffering from Hypertension and Diabetes. See Table No. so and so.

30. Use correct words as mentioned below. It improves the quality of the manuscript:

Words/sentence

- * Cases
- * Weakness of the study
- * Article was sponsored
- * My study
- * My patient
- * Age was 56 years old

Preferred words/sentence

- * Patients
- * Limitation of the study
- * Study was sponsored
- * our study
- * our patient
- * 56 Years of age

31. **Do not mix up Results and Discussion:** Remember there are different important parts of a paper which includes the following:

- * Structured Abstract
- * Introduction
- * Methods
- * Results
- * Discussion followed by conclusion and appropriate references.

There is specific information which has to be included in different sections hence they cannot and should not be mixed up. (For further details read chapter on Writing a Scientific Paper on Page-135) Limitations of the study can be covered in the last paragraph of the Discussion before conclusion. It increases the chances of acceptance of the manuscript and is not considered as a short coming by the Reviewers as well as the Editors.

32. **Authorship:** Always decide the authorship issues before writing as to who is going to be at No. 1, 2, 3 and four etc., as later on it may create differences and problems.
33. Those who are listed as authors should not be included in acknowledgement and all those who have helped in the study and are not eligible for authorship should be acknowledged including the institutions.
34. Brevity is the beauty of writing. There is lot of pressure on limited space available with all the good peer reviewed journals. That is why they put some word limits for structured abstracts, full paper all inclusive from title to

references and the number of references as well. Hence be brief. Here are a few examples:

Example No. 1:

Objective: The objective of this study was to find out the prevalence of metabolic syndrome in patients with Type-2 diabetes mellitus. Its precise version can be as under:

Objective: To find out the prevalence of metabolic syndrome in patients with Type-2 diabetes mellitus.

Example No. 2:

The total number of patients who were screened was 680. It included 374(55%) male and 306(45%) female. Their mean age was 58 years. The study was undertaken from January 2004 to December 2005. The precise version of this statement can be as under:

Six hundred eighty patients 374(55%) male and 306(45%) female, mean age 58 years were screened during January 2004 to December 2005.

35. **Use of Hyphens:** Use hyphens where indicated. For example write fig 1 and table 1 like Fig-1 and Table-1.
36. Some journals require that processing fee which is in addition to publication charges should also be arranged at the time of submission. Do not forget to arrange that otherwise either your manuscript will not be accepted for further processing because of “Incomplete submission” or it will be kept pending.
37. Some journals also require that while writing references, one should include the doi (digital object identifier) in the references where available.
37. **Ethics Committee/IRB approval:** In view of the scientific fraud which is now being increasingly highlighted, all good peer reviewed journals now require that the manuscript must be accompanied by Ethics Committee approval letter from the institution, Institution Review Board where the study was conducted. If the authors fail to provide that, their manuscripts are not accepted for further processing. Hence, make sure to get your study protocol approved from the EC/IRB of the institution where the study is being

conducted. In case it is a Retrospective study, the authors can apply for exemption from the EC/IRB or they can explain it to the Editor at the time of submission that since no intervention was involved and it is a retrospective data analysis, information taken from institution database, files, no ethics committee approval was taken.

Finally before submission, re-check to ensure that you have met all the requirements of the journal and did not miss any detail. Do not forget to mention your all contact details on the title page i.e. e mail, cell phone and complete postal address. (The cell phone is deleted during post acceptance editing before publication).

REFERENCES

1. Parsell G, Bright J. Medical Teacher 1999;21(5):457-468.
2. Medline websites: <https://www.medline.com/> Accessed on July 5, 2017.
3. PubMed Central: <https://www.ncbi.nlm.nih.gov/pmc/> Accessed on July 5, 2017.
4. Web of Sciences: <https://www.webofknowledge.com> Accessed on July 5, 2017.
5. Google Scholar: <https://scholar.google.com> Accessed on July 5, 2017.

FURTHER READINGS

1. Jawaid SA, Jawaid M. Medical Writing: Basic definitions and some useful information. 2nd Edition. Professional Medical Publications, Karachi-Pakistan, 2017.

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1. Shaukat Ali Jawaid
Chief Editor,
Pakistan Journal of Medical Sciences,
Karachi-Pakistan.
E-mail: pjms@pjms.com.pk
pulse@pulsepakistan.com