



EDITORIAL

THE NITTY-GRITTY OF WRITING A RESEARCH ARTICLE IN MEDICAL JOURNAL

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“When you write an article, you lay out a line of words”

“The line of words is a miner's pick, a woodcarver's gouge, a surgeon's probe. You wield it, and it digs a path you follow. Soon you find yourself deep in new territory. Is it a dead end or have you located the novel subject? You will know tomorrow, or this time next year”(1)

OUTLINE:

Getting published a research article in a medical journal is a sensational experience as it symbolizes the aftermath and acknowledgment of a strenuous course. Solely, a research article can have implications in clinical practice if it has followed a clear and through path and can be a savior for the patients. Envisaging a research idea, practically working on it, writing a research article by a health care provider and printing an article by editors are both crucial quality concerns. Mutually they should know the expectations of each other.

This editorial features the guiding principles of writing a worthy scientific piece of research so that it is not excluded by any editor from the journal.

“Not all who look at a journal are going to read even one article in it; Writers must know therefore what turns a looker in to a reader” (J. W. Howie)(2)

Research is important for the progress and advancement of

health sciences. Evolution of primitive ideas to contemporary ones can only be carried out through complete, scientific and educational research. If a research idea wants to achieve its goal of getting practical applicability and improving health of community, it has to undergo vigorous experiments and meticulous translation to a paper. Clinicians, nowadays, are facing challenges of integrating valid, up to date evidences of scientific research for providing contemporary healthcare to their patients.(3) The sole pathway available for upgradation of knowledge and solutions available in any specialty is translation of scientific research articles into clinical practice. There has been a mushrooming growth of journals published in healthcare specialties in last decade and there has been ever-increasing appetite for quality research articles. About sixty lac research articles are published annually in different journals in domains of healthcare, regardless of this immense quantity of medical writings, less than 15% of all papers published are beneficial.(4) In-fact papers published in the many admired journals are not ideal. Evaluation of clinical experiments presented in many scientific journals have labeled enormous deficits in research methodologies, data exploration and presentation. Even though refining with time lapse, mean quality score of clinical experiments, during past twenty years, is less than 50%. (5,6) The researchers therefore, should take personal obligation of offering useable and legible, scientific upgrades.

Publishing individual research results is a delightful experience as it symbolizes the aftermath and acknowledgment of a strenuous course. Transparency in documenting the research methods, and reporting results is supreme important both for the research fraternity and for clinicians.

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The clinical practitioners can only cherish the philosophies being unearthed and decide the application of results in their clinical settings only through well explained and proven research article. The research serves as foundation on which contemporary clinical interventions can be intended and executed. (7, 8) Moreover writing a research article is mandatory for promotion and a major requirement of council in Pakistan to determine eligibility of doctors for faculty position.

Research article exclusively written for promotion, add-on considerably to the substandard collections of research articles. (9) Importance must be given to study design, methodology and implementation of the research, because a research deficient in these components can never harvest a valuable research paper. (10-12) How to conduct a good research is beyond the scope of this article. Based on assumption that you have conducted a valid scientific research, this article highlights the science and art of writing and presenting a research paper to any scientific journal.

FATE OF ARTICLE AFTER SUBMISSION TO A JOURNAL

Selecting an article for publication is the utmost challenge for the editors. (8)

After submission of an article to a journal, the review process starts which consist of two phases. In first phase it is read and evaluated by the editors for initial quality assessment and adherence to publication policy of the journal. Few of the articles may face rejection at this initial step. After getting through this first quality check the article moves to the process of peer review. Reviewers are the ones who have vast knowledge and sound base of experience in the relevant field. Peer review is a confidential process and all the responsibilities of secrecy are communicated to the reviewers' every time they are assigned a task of reviewing an article. The reviewers have authority to grade an article unfit for publication or they may suggest changes in manuscript. Sometimes articles may be returned to author for amendments and they are communicated that the article may still not be published after changes. For prospective authors it is beneficial to know the process of publication, especially review process, suggestions and recommendations of the reviewers. Moving according to the journal's guidelines for authors, helps in speedy decision making. These guidelines are way to quality assurance and adherence to them leads to good written, legible and meaningful research article. In literature mostly five types of

problems were identified by reviewers: excessive material, insufficient material, incorrect material and inappropriate methodology and structure. (4) As editors of a medical journal, we found major mistakes in abstract of the manuscripts regarding length, quality, accuracy of information, missing vital information and addition of irrelevant findings in abstract. We found that usually the research articles by Pakistani authors were lacking an adequate use of grammar, scanty language and inadequate referencing. Fate of the article regarding its publication or rejection depends solely on two standards of quality, importance and similar publications recently.

FIRST STROKE IS HALF THE BATTLE

Before writing an article, researchers must plan "How and What to write?" and "In Which Journal to Submit?" after planning and executing a well conducted research with adequate data the authors must come up with a crisp conclusion intended to conclude a clear and perfect message

Priority areas that need emphasis for publication are: 1) Theme of manuscript: e.g. Original Article, Case Report, Case Series, Review Article, Letter to editor, pilot study. 2) Identifying potential readers and appropriate journal: Determined writers can enhance chances of getting their articles published by choosing adequate journal for their area of research.

WRITING IS THE PAINTING OF THE VOICE:

A good journal prefers clarity, conciseness and accuracy while accepting any manuscript. A well written or vice versa can be easily distinguished on these benchmarks.

The writing structure IMRaD has been used since 1940s and since 1980s it is advocated as the exclusive pattern for scientific writing in journals, almost all the journals recognized by Higher Education Commission, (HEC) Pakistan advocate usage of IMRaD. This structure is based on four pillars: A) Introduction; a brief account of the problem, B) Methodology; what and how the researcher would do? C) Results; what was found? D) Discussion; comparing and interpreting results.

In addition to IMRaD, any manuscript in a scientific journal must include "TAKAR" Title, Abstract, Keywords, Acknowledgement and References.

International Committee of Medical Journal Editors (ICMJE) recommends "Uniform requirements for manuscripts

submitted to Biomedical journals". Almost all the health sciences journals recognized by Higher Education of Pakistan including our journal JMMDC have adopted the recommendations. The detail requirements and guidelines are given at www.icmje.org

The scheme of presenting a content in journal is categorized into eight main headings which encompass wide areas of 40 factors as advocated by Georges B in the year 1989.(7)

Namely A) Title B) Abstract and keywords C) Introduction and Review of literature. D) Material and Method E) Results F) Discussion and conclusion G) References H) General considerations.

In this editorial we will be discussing all these important headings with special reference to ICJME guidelines, keeping in mind the current situation of medical research and publications in Pakistan.

A) TITLE

The title is the most important initial impression that relates an author to a prospective reader and plays an important role in temptation to read the article or not.(13)

It must adequately highlight the research problem under investigation and must reveal the extent and constituents of research. For example, "comparing the effect of pregablin premedication on patients undergoing laparoscopic surgery" After reading this title one cannot predict the extent and constituents of this research; it is difficult to predict if efficiency, dosage, effective time were studied. Whether its effects were compared with a placebo or any other alternative drug? Any kind of inference from the title is impossible. Title must be transparent, concise and enlightening. It must have keywords, which can attract the reader's attention. Abbreviations must not be used. The temptation to read an article mostly depends on an eye catching title. More adequate title for above given example can be "Comparison of effects of oral pregablin premedication with placebo on hemodynamic response in patients of laparoscopic surgeries".

B) ABSTRACT & KEYWORDS

Abstract must engulf all important components of the research in maximum 250 words. It must quote objectives of the study, rationale for the research, basic methods and processes involved including study location, sample size, sample selection, data collection procedures, data analysis

plan, key results and their significance, inferring conclusion and importance of the results.

Three to ten key words must be enlisted which cover all the important features of the research. All the health sciences journal recognized by HEC, Pakistan, adequate usage of Medical subject headings (MESH) in Index Medicus (Medline).

C) INTRODUCTION AND REVIEW OF LITERATURE

Introduction must be brief and comprehensive, describing all the important aspects of the problem and leading to study question. Five to eight relevant articles should be quoted and reviewed without reporting data or conclusions. Don't fall into temptation of extensively reviewing the literature. Importance of the study is stated with reference to present researches and solutions, identifying the gaps and conflicts.

D) MATERIAL AND METHOD

Study design is the basic floor plan that needs to be highlighted and justified. Methodology, tools and techniques must be clearly presented. Study location and duration, sample size, sample selection and criteria's for including or excluding the participants are to be stated in detail. Clearly mention the data collection tools and data analysis plan including statistical methods with linked references. Description of all the drugs and chemicals with generic names, dosage and their administration methods must be clearly documented. Factors used to control potential errors and biases e.g. randomization, blinding, and usage of control or placebo groups must be described precisely. Data collection tools including questionnaire or checklist should be described addressing their validity, reliability and accuracy. Sample of tools or questionnaire must be attached in annexures.

E) RESULTS

Key findings should be presented in coherent order in text, figures or tables, avoiding repetition of same findings in more than one mode of presentation. Give adequate summary of key findings without getting influenced by opinions or previous researches. All the participants must be included while formulating results, clearly mention any refusals or burn outs. Findings having insignificant associations or unexpected outcomes should not be avoided or hidden.

F) DISCUSSION & CONCLUSION

Discussion is a forum to discuss, analyze, interpret and compare key findings. In addition, they can be used to elaborate shortcomings in methodology. Acknowledge the rejection or vice versa of the hypothesis. Compare your study results in context to the previous studies and point out the differences and similarities. Give special emphasis to any contemporary aspect or findings and implications of the findings. Discussion must include a relationship between conclusion of the study and study goals based on documented results. Do give a brief account of way forward, recommendations and any additions required in future. However, conclusion and recommendations should not surpass the limitations or should not over generalize beyond the study frame. Moreover, discussions should not be used to assert opinions or detract from the study topic to related issues beyond the scope of study.

G) REFERENCES

The most misunderstood myth for Pakistani authors is about the number of references required for a valid study. This is a wrong perception that writing a long list of references increases the authenticity of the study. A study having a balanced number of references, neither scarce nor in excess is considered more strong. References should be enlisted in accordance to the exclusive standards recommended by the particular journal whichever it may be Vancouver style or Harward style. References should be enlisted correctly with extra attention. There should be correct use of abbreviations and official names of the journals.

H) GENERAL CONSIDERATIONS

All the units of a research paper should be distinctive, still in a flow to link previous unit to next one. The text written under each unit should be carefully monitored so as not to enter under the wrong heading, for example there should be no 'Methodology' in 'Results' unit. The terms and abbreviations used should be coherent and uniform including the units of measurements and texts in tables and figures.

The manuscript language should be clear and meaningful, avoid any spelling mistakes and grammatical errors. Do consider spellings for American vs British language and use a uniform pattern. Authors should follow the journal's guidelines in regards to type of manuscripts, tables, figures, diagrams, pictures and matter of text.

Ethical principles and guidelines laid down by ICMJE should be followed strictly, for any ambiguity or doubts in ethical considerations do not hesitate to get help from the concerned authorities and if there is no authority available to help and guide, use human self-instinct and question yourself whether this study is safe enough to be conducted on your family and friends, if your instinct hints it to be safe, move forward. Do acknowledge all the help directly or indirectly incurred to you during the course of study.

“Editors and referees..... but are busy people whose humanitarian instincts should not be abused; and it is better for all concerned that authors try to submit papers that are in good working order” (O'connor M, Woodford F P) (14)

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