



Submitting a Manuscript for Publication, the Peer Review Process, and Getting Past the Gatekeepers **47**

Pitchai Balakumar and Gowraganahalli Jagadeesh 

Abstract

The publication serves the vital purpose of letting the work or ideas known worldwide to researchers and other academia. One's findings acquire meaning only when these are used further for the betterment of society and the advancement of knowledge. Research helps to disseminate the knowledge to the relevant places. The ultimate goal of scientific research is publication. Considered an integral

part of scientific publishing, peer review is the systematic procedure employed in the shortest possible timeframe to meticulously assess the quality of a submitted manuscript before it is considered for publication in an indexed journal. Peer reviewers volunteer their time to help improve the quality of the submitted manuscripts. The expert reviewers in the relevant area of research critically evaluate the manuscript for its originality, validity, consistency, and significance to help editors decide whether or not a manuscript can be considered for publication in their journal. Only after the manuscript meets the submission criteria and scope of the journal, the editors will invite potential peer reviewers close to the field of research to review the manuscript and receive recommendations on the overall scientific integrity of the manuscript for further consideration before a manuscript is accepted, revised, or rejected. Different types of peer review adopted by biomedical journals to confirm the validity of the manuscript include single-blind, double-blind, and open peer review systems. In this chapter, we delineate the principles of manuscript preparation, journal submission, and peer review systems and their importance in scientific publishing.

P. Balakumar (✉)

Professor & Director, Research Training and Publications, The Office of Research and Development, Periyar Maniammai Institute of Science & Technology (Deemed to be University), Vallam, Tamil Nadu, India
e-mail: directorcr@pmu.edu; pbalakumar2022@gmail.com

G. Jagadeesh

Retired Senior Expert Pharmacologist at the Office of Cardiology, Hematology, Endocrinology, and Nephrology, Center for Drug Evaluation and Research, US Food and Drug Administration, Silver Spring, MD, USA

Distinguished Visiting Professor at the College of Pharmaceutical Sciences, Dayananda Sagar University, Bengaluru, Karnataka, India

Visiting Professor at the College of Pharmacy, Adichunchanagiri University, BG Nagar, Karnataka, India

Visiting Professor at the College of Pharmaceutical Sciences, Manipal Academy of Higher Education (Deemed-to-be University), Manipal, Karnataka, India

Senior Consultant & Advisor, Auxochromofours Solutions Private Limited, Silver Spring, MD, USA
e-mail: GJagadeesh2000@gmail.com

Keywords

Manuscript preparation · Cover letter · Manuscript submission · Peer review · Types of peer review · Editor's decision

47.1 Introduction

There was a belief that teaching students were the most critical aspect of an academic job where teachers have devoted all their energy to teaching students (excellence in teaching). Nowadays, the bar is raised for entry into the teaching profession. Actively involved in research and eventually publishing the scientific findings are part of the job descriptions at all academic career levels, starting from instructor/lecturer to professor and above. The publication is the gateway to the successful selling of scientific findings. A substantial body of published works helps advance one's academic career as they are considered for an academic appointment and a promotion. It creates requirements for a job and aids in recognition. Publishing helps establish an individual as an expert in their field of science. Research funding requests are evaluated based on peer-reviewed publications. Prior research experience and preliminary findings supported by publication(s) open the door for grants, while research funding is essential to facilitate high-quality research. Without publication, there would be no grant. Teachers, researchers, and science administrators need to understand why publication matters a lot.

Though timely submitting the thesis and completing the research project are considered critical, what really matters is how one tells the story of the project/clinical investigation in a clear, succinct, simple language, weaving the previous work done in the field, answering the research question, and addressing the hypothesis set forth at the beginning of the study. In addition, the research findings should be wrapped in the form of an excellent scientific paper. Writing an article is one of the components of all research projects, while research outcomes are measured through a quality publication. Since the number of submissions and the number of researchers/clinicians vying for space are more than the

availability of journals, one can stand out from the competition with a high quality write-up.

The peer review system assesses the quality of a submitted manuscript that is considered an integral part of scientific publishing. The expert reviewers carefully assess the manuscript for its originality, validity, and error-free write-up before it is considered for publication in an indexed journal of repute. With the help of reviewers' comments, the editors decide whether or not to consider the manuscript for publication. In this chapter, we describe the journal selection process based on the nature of the study and the type and area in which the manuscript (MS) is prepared. The steps involved in getting the MS to the editors' desk are sequentially explained. In addition, the peer review process involving the author, editor, and reviewer toward a successful publication of the paper is described in the chapter.

47.2 The Selection of a Journal

There are three main problems in the publication of a paper: (1) Typographical errors and grammar problems- grammar and spelling issues markedly interfere with the clarity of scientific contents, while sloppy writing is by far the biggest problem with submissions; (2) Structural issues of a paper, inconsistencies, and issues with the clarity and tone, whereas the subject matter is not well stated by the author/s. There may be a lack of authority as a result of insufficient understanding of the existing literature; and (3) Choosing the right kind of journal for submission within the scope of the journal. All of these may serve as a bottleneck in delaying the publication of a scientific paper.

During the writing process or before you begin to write, consider selecting a suitable journal for submission. This is based on the type of publication (original research article, short/rapid communication, review, state-of-the-review, mini-review, letter to the editor, clinical case, methods, technical or laboratory notes, book review, and others). For publishing an original research article, consider the novelty of new findings (incremental or additional, conceptual or theoretical advances) and the significance of the study (practical applications for a specific

field or across many fields). The novelty may be described as: (a) the findings are reported for the first time, (b) although the findings have been reported earlier, controversy exists, (c) the current work extends the previous findings, and (d) the largest study of the research question [1]. The author must address the impact/significance of the work and the target audience (general or subject specialty focused). Equally important factors to be considered while selecting a journal include, but are not limited to, Web of Science-Science Citation Index Expanded (SCIE)/Social Sciences Citation Index (SSCI)-Clarivate Analytics journal impact factor, SCImago journal and country rank, abstracting/indexing service databases (PubMed/Medline, Scopus, Embase), the professional society journal, subscription/open access, page charge, publishing frequency, review time frame, acceptance/rejection rate, and target audience. Do not publish in predatory, hijacked/cloned, and non-indexed journals. Additional factors to consider in selecting the right kind of journal are listed in Box 47.1.

Box 47.1 Factors to be considered while selecting a journal: Where to publish?

1. Language- English only
2. Traditional journals or Open access journals (OAJ) (<https://www.doaj.org/>)
 - Visibility, cost, prestige, and speed
 - In OAJ, everyone can read your paper- this increases visibility and attracts more citations; however, an open access fee is applicable
3. Publishing frequency- preferably monthly or semi-monthly
4. Time frame- Time of submission to acceptance (review time) and publication. It varies from month to year
5. Does the journal offer fast-tracking for publication? (Published ahead of printing, accepting rapid communication). Take advantage of it
6. Journal with well-indexing and is readily accessible across the globe
7. Acceptance rate: Prestige journals have a low acceptance rate
8. Has the journal published articles similar (area of research) to yours? Browse a few issues to understand the nature of articles published in the target journal
9. Highest impact factor for that particular field

(Web of Science Q1 rated journals)

10. Before you write the MS and before the submission of the MS, read “Information for Authors” of the target journal to determine the journal’s restrictions. A good fit is essential
11. Understand the scope of the journal, and its audience—clinical, experimental, theoretical, new or modified techniques and methods
12. Journal format is different for each journal-*Review* the length of the MS allowed (word limit), Abstract size and style (structured/non-structured), Number of Figures and Tables allowed, Harvard/Vancouver Citation formatting (in text and reference), Number of references allowed, Type of abbreviations allowed, and Structure of the paper—IMRaD style? If not, write Supplementary Methods, including Supplementary Figures, and Data

Furthermore, several easy-to-use online resources help you decide which journal would be most pertinent to your research. These journal websites (there are many more) allow you to paste the Abstract or Title of your paper and match the right fit.

The JANE (Journal/Author Name Estimator): JANE compares the author’s document to Medline documents to find the best match. <http://jane.biosemantics.org/>

Elsevier: <http://journalfinder.Elsevier.com/>

Springer Nature: <https://journalsuggester.springer.com/>

Edanz: <https://www.edanz.com/journal-selector>

BMJ: <https://authors.bmj.com/before-you-submit/how-to-choose-a-journal/>

47.3 Before Submission of a Manuscript

A well-written MS has a clear, valuable, and exciting message to potential readers. It is systematically presented and logically constructed. These criteria sway the mindset of editors and reviewers to consider reading the MS and assess its value for publication. A few journals encourage an initial approach before considering a final MS for a peer review. Authors might contact the editor or journal office by sending an outline of

the MS consisting of the abstract, introduction, and the general area or outline of the work. The reason for doing this is some of the high-impact prestigious journals receive too many MS, the journal may have a similar paper in the pipeline, and the journal is unlikely to publish a type of MS. Furthermore, the editor may be willing to consider a shorter version or correspondence. Early declining to publish saves the time and effort of both editors and authors.

47.3.1 Similarity of Words

Before submitting a MS to an indexed journal, thoroughly check its quality more than twice. Check the MS for the similarity of words (or plagiarism). Once the writing is done, run plagiarism checking software to ensure that your document is mostly (score > 95% unique) original. Rewrite sentences to make sure that it is exceptional. A plethora of plagiarism detectors are available online. It takes work to select the best among them. A few online plagiarism tools/software (free or paid) are as follows:

1. Dupli Checker: <https://www.duplichecker.com/>
2. Smallseotools: <https://smallseotools.com/plagiarism-checker/>
3. Ithenticate: it is commercial software being used by most publishers: <http://ithenticate.com/>
4. Plagscan: This is a commercial, but a free trial is also available. <http://www.plagscan.com/>
5. Turnitin: <https://www.turnitin.com>
7. The Viper: <http://www.scanmyessay.com/viper/Release/ViperSetup.exe>
8. <http://plagiarismdetector.net/>

47.3.2 The Cover Letter

A well-written MS is sold through an effective and meaningful cover letter, which should create a positive first impression with journal editors. It acts as a guide for selling the author's work to the editor. The cover letter must explain the clinical, investigational, or experimental relevance of the original research work and provide background,

rationale, and research outcomes to justify why the journal should consider the MS for peer review and eventual publication.

Most journals receive more papers than they can publish. The editor may not necessarily be an expert in your field of super-specialization. It creates the first impression for journal editors if the letter is addressed personally. The letter should include the MS title/publication type and highlight the study's important findings. It should be followed by a brief statement on the work's novelty/significance/relevance. To expedite the publication process, the cover letter is expected to include some "must-have" statements such as original unpublished, not submitted to other journals, authors agreeing on the MS, key outcomes of the study, no conflict of interest, authorship contributions, and source of funding.

47.3.3 Submission Checklist

Before submitting a manuscript, thoroughly check its quality, evaluate its contents critically, and ask yourself—could anything be done further better? Then, follow through with the journal's author guidelines in preparing the MS to prevent rejection of the submission before even being considered for peer review. Finally, only submit the same MS to one journal at a time. The critical checklist is listed in Box 47.2.

Box 47.2 Checklist before submitting the MS to an indexed journal

Make sure that:

1. You have followed the Instructions for Authors as per the target journal
2. The MS has gone through spell and grammar checks
3. The MS has been checked for plagiarism (score should be >95% unique)
4. You have completed the online registration for the submission process for the target journal
5. All authors have consented to the publication of the study. Signed consent forms/Author declaration forms are ready (forms are downloaded from the journal website)
6. The copyright transfer form is signed

(continued)

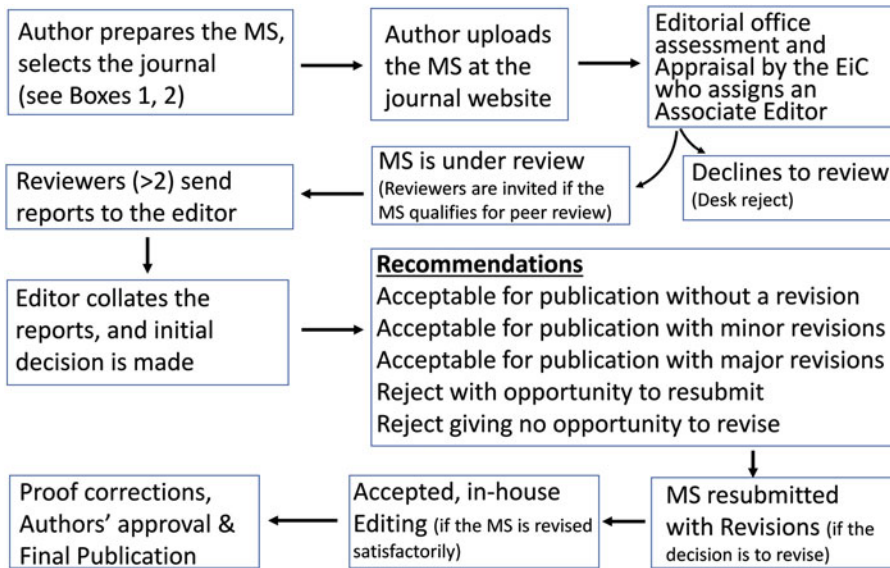


Fig. 47.1 The publication process and the peer review (EiC: editor-in-chief)

Box 47.2 (continued)

7. The required files are in the correct file format, figures are of appropriate resolution or size
 8. Separate files are generated for Figures (individual files), Abstract, Key Points, or Highlights
 9. Finally, Graphical Abstract and a well-written persuasive cover letter are ready
 10. The main MS file has:
 - The title page, Contributing Authors with their institute affiliation and Email addresses, designated Corresponding author, Abstract, Keywords, List of abbreviations, all the key sections of the MS (IMRAD format), Acknowledgment, Funding source, Conflict of interest, Authors' contribution statement, References, Table(s), and Figure legend (no figures)
 11. Once all files are ready, log into your account at the journal website
 12. Follow online instructions and upload files in the order listed. The process will take nearly 30 min to an hour
 13. Once completed, the system collects all the files and rearranges and builds up a PDF file of the submission. It prompts you to check your email to approve the file. Then, download the PDF file and check for the content and accuracy
 14. If everything is good, 'approve' the submission
 15. The editorial manager informs all co-authors of the submission
- A part of the publishing task is over. Wait for the Editorial decision on the MS

47.4 The Publication Process and the Peer Review System

The publication process and the peer review system are depicted in Fig. 47.1.

47.4.1 The Key Role of the Editor and the Editorial Office

All papers are checked for completeness at the editorial office before being submitted to the plagiarism detection system and word similarities. If the paper is considered unsuitable for the journal (not within its scope, not unique, very poorly written, and does not advance the field of research), it will be rejected outright before sending it for peer review. This is known as 'desk reject'. Preventing 'desk reject' is easy, and it often happens because the authors are formatting the MS and cutting the corners in a hurry to submit. There could be multiple reasons, such as formatting style, poorly written, faulty research topic, inappropriate study design, insufficient data, discussion, and illogic conclusion [2].

Once the MS enters the peer review, you have some chance to have it accepted by a journal,

suppose the MS passes the initial screening procedure. In that case, the editorial office first sends the abstract of the MS to a panel of reviewers (2 to 5) seeking their willingness to review the MS. Once they agree to review, the reviewers can access the entire MS and comment on the suitability and accuracy of the MS for publication. Authors can have the current submission status by checking the journal's Editorial manager frequently.

Peer review is a process of subjecting authors' research to the experts' evaluation. The process separates the wheat from the chaff, the good from the bad. Passing the gatekeepers is very tough as they scrutinize the findings and do not just let anybody publish whatever they want. In this way, the journals keep up the standard by shortlisting papers of much higher quality to publish. Peer review remains the foundation of publishing and an essential element of the quality publication process. Critical assessment of a MS is vital to peer review and the publication process. The articles that have not gone through peer review are not cited and the findings are not taken seriously by fellow scientists. Furthermore, peer-reviewed publications build a credible body of knowledge in the field and allow everyone in the field to trust the journal's publishing practice.

Both the editor and the publication managers coordinate in selecting reviewers (two or more) based on the following:

- Journal editorial board
- Experts in the specific area (from an internal database created by the journal, reference section of the MS, biomedical databases, or editor's personal knowledge)
- Experts from different geographic regions
- Experts identified using a database like Scopus based on their h-index and other metrics.

Authors can qualify or disqualify some referees, but the final decision in selecting reviewers for the MS rests with the editor. Journals use different types of peer review. Broadly, one of the three variations is being practiced. Single-blind, where the reviewer knows who the author is, but the author does not know who the reviewers are. This is the most common form of peer review

system followed, and the proponents argue that reviewer anonymity allows for providing objective feedback to the authors. The double-blind procedure is less practiced where the authors and reviewers do not know their identities each other. This is time-consuming in unmasking the authors details and assigning a code number to each MS. However, this procedure can remove the author and regional bias (Mathew effect) [3] that existed with the single-blind.

On the contrary, the reviewers can figure out the authors of the MS based on the text, references, preprint, or conference presentation. Reviewers are reported to award higher marks when the MS is from a famous author or lab [3]. In the case of the 'open' (or non-blind) method, again less practiced, the authors and reviewers' identity is disclosed.

During the peer review system, there may be a possibility of intentionally delaying the publication of the MS and/ or using the contents of the unpublished material for personal gain. While sending out the MS to reviewers, the journal mostly instructs the reviewers to treat the MS as privileged, and confidential and not to disclose to anyone during the review and once the review is done. Scientists worldwide spend millions of hours peer-reviewing manuscripts for scholarly journals every year. This is time-consuming and labor-intensive work. Most of the journals recognize the contributions of their reviewers by publishing their names in a special section of an issue of the journal.

What does the peer reviewer look at the MS? The reviewers look for originality, relevance/ significance, study design, methodology, presentation of results, the strength of discussion in relation to previous findings, possible conflicting findings, study limitations, the strength of the conclusions, and the overall quality of the MS, including the language quality and write-up. The other reasons why the MS gets rejected associate with the wrong statistical analyses, leading to a wrong conclusion and a weak discussion because of insufficient understanding of the subject and outdated literature [4]. A few journals ask authors to include in the article a brief statement on novelty and significance, stating 'what is new' and

‘what is relevant’. Peer reviewers may or may not detect fraudulent data, plagiarism, or image alteration. Detection of data manipulation at a later stage, even after the publication, may have consequences. It might result in the retraction of a published paper.

The Editor receives a minimum of two reports from reviewers before reaching a decision for a submitted MS. A confidential message (not for the author) to the editor suggesting a recommendation with reasons on the MS, and a detailed review of the paper with constructive critique to the authors are submitted by peer reviewers. The editor will collate reviewers’ responses that could vary from rejection to minor or major revision of the MS and rarely to its direct acceptance on the first decision. All reviewers may not be in agreement in recommending the MS for publication, and in such a case the editor has to address the divergent opinions of the reviewers and arbitrate. Based on reviewers’ recommendations, the editor sends a letter, usually a variation of the five decisions, from rejection to acceptance, with or without revision (Fig. 47.1).

If the MS is accepted, it is sent for production. On the other hand, if the MS is rejected or considered for a revision (minor or major), the editor who handles the MS should communicate with the authors with constructive comments received from the reviewers to help the author improve the MS. At the same time, reviewers should also be communicated with an email on the outcome of their reviews.

47.4.2 The Authors’ Role After the Peer Review

Authors generally feel frustrated if their MS is not accepted or asked to undertake major revisions with additional experiments. Most of the time, the papers fall into this category. A small number of MS comparatively are accepted with minor revisions. Some of the prestige journals have very low acceptance rates. Novice researchers face extreme difficulties publishing their research work in a reputed journal. Publishing in quality, high impact journals is the need of the hour for

budding scientists as they need to build a track record and expertise in their field [5]. Although peer review enhances the quality of a paper, the blog authors argue that not all revisions improve the paper. Sometimes there could be contradicting reviewers’ views for the same section of the MS [5]. In such divergent opinions, the editor guides on addressing the query, or the author might ask the editor to weigh in and adjudicate. Honest, constructive reviews and motivating feedback help authors. On the contrary, there are instances of criticism, and rude and inappropriate comments by reviewers [6, 7]. Reviewers should practice a well-mannered and constructive review as they are also authors. They should be judicious in asking authors to do additional experiments [8].

Rejection and revision are norms in the publication of scientific articles. Even some Nobel Prize-winning scientists’ papers were rejected [9]. Before attempting to revise, authors should check the journal’s revision guidelines. If revisions are required and asked to respond to reviewers’ comments, authors should meticulously respond to individual comments with appropriate answers keeping in view to get the paper accepted and eventually published. Use ‘track changes’ or a different color to clarify where changes were made to the revised text in the MS. If necessary, a separate page listing responses to each reviewers’ comments be included. It is a norm to thank the reviewer if there is a compliment for the work. Also, it is common to offer a rebuttal of reviewer comments that the author disagrees with the reviewer. In such a case, the author should show politeness by stating, “we do not agree with the reviewer’s views or we respectfully disagree with the reviewer’s opinion” and then state the valid reason for the disagreement.

The authors should return the revised MS and response letter within the requested time period. The Editor-in-Chief or the handling Associate Editor reviews the reviewers’ comments along with the resubmitted MS and the authors’ line-by-line responses to ensure that all comments have been appropriately addressed. The editor may send the revised manuscript and the author’s

responses to reviewers' comments to the original reviewers for a second reading. If revisions are acceptable, the editor might issue an 'acceptable' letter and the uploaded files will be transferred to the publisher's production department for publication. Upon receipt of the acceptance letter for publication, the author should relax and wait for proofs to arrive.

The production department revises language and style. Next, the paper is typeset and proofread by professional proofreaders who identify grammatical/typographical/syntax errors and highlight any inconsistencies. Typeset proofs are sent to authors to clarify the queries raised during the production stages. Once the authors finally approve the galley proof, the publisher publishes the article with final bibliographic details, ending the publication journey of a MS.

47.5 Concluding Remarks

Writing a publishable and citable paper is an arduous job that needs meticulous planning, hard work, and persistence. Finally, if you are passionate about research, you must pursue and persist in research and publications. Each paper is a stepping stone for additional and continuity of research. Demonstrate your dexterity at the bench work, write well and enjoy the benefit of publication and the citation that follows with it. The editors always want to publish good quality papers which advance science and knowledge. The editors often judge between a considerable number of high-quality articles. The submitted

MS is more likely accepted if it is meticulously prepared, describes the research that advances the field using clear and concise language, and strictly follows ethical standards.

Conflict of interest None declared.

References

1. Prakash A (2010) Working with journals: cover letter to the journal, peer review and revision process. In: Jagadeesh G, Murthy S, Gupta YK, Prakash A (eds) *Biomedical research, from ideation to publication*. Wolters Kluwer, New Delhi, pp 491–499
2. Bordage G (2001) Reasons reviewers reject and accept manuscripts: the strengths and weaknesses in medical education reports. *Acad Med* 76:889–896
3. Brainard J (2022) Reviewers award higher marks when a paper's author is famous. *Science* 377(6612):1251. <https://doi.org/10.1126/science.ade8714>
4. Gewin V (2018) The write stuff. *Nature* 555:129–130
5. Merga MK, Mason S, Morris JE. Tips for negotiating the peer-reviewed journal publication process as an early-career researcher. <http://blogs.lse.ac.uk/impactofsocialsciences/2018/11/07/tips-for-negotiating-the-peer-reviewed-journal-publication-process-as-an-early-career-researcher/>. Accessed 25 Nov 2022
6. Editorial. (2020) Communication is key to constructive peer review. *Nature* 582:314
7. Clements JC (2020) Don't be harsh in peer review. *Nature* 585:472
8. Drubin DG (2011) Any jackass can trash a manuscript, but it takes good scholarship to create one (how MBoC promotes civil and constructive peer review). *Mol Biol Cell* 22:525–527
9. Kotsis SV, Chung KC (2014) Manuscript rejection: how to submit a revision and tips on being a good peer reviewer. *Plast Reconstr Surg* 133:958–964