



Revista Portuguesa de Pneumologia

ISSN: 0873-2159

sppneumologia@mail.telepac.pt

Sociedade Portuguesa de Pneumologia
Portugal

Winck, J.C.; Fonseca, J.A.; Azevedo, L.F.; Wedzicha, J.A.

To publish or perish: How to review a manuscript

Revista Portuguesa de Pneumologia, vol. 17, núm. 2, marzo-abril, 2011, pp. 96-103

Sociedade Portuguesa de Pneumologia

Lisboa, Portugal

Available in: <http://www.redalyc.org/articulo.oa?id=169722524011>

- How to cite
- Complete issue
- More information about this article
- Journal's homepage in redalyc.org

redalyc.org

Scientific Information System

Network of Scientific Journals from Latin America, the Caribbean, Spain and Portugal

Non-profit academic project, developed under the open access initiative

Rev Port Pneumol. 2011;17(2):96-103



revista portuguesa de
PNEUMOLOGIA
portuguese journal of pulmonology

www.revportpneumol.org

SÉRIES TEMÁTICAS

To publish or perish: How to review a manuscript

Publicar ou perecer: Como rever um manuscrito

J.C. Winck^{a,*}, J.A. Fonseca^b, L.F. Azevedo^b, J.A. Wedzicha^c

^a*Pulmonology Department, Faculdade de Medicina da Universidade do Porto, Porto, Portugal*

^b*Biostatistics and Medical Informatics Department & CINTESIS, Faculdade de Medicina da Universidade do Porto, Porto, Portugal*

^c*Academic Unit of Respiratory Medicine, UCL Medical School, Royal Free Campus, University College London, London, UK*

Received February 12, 2011; accepted February 28, 2011

History of peer review

The term peer review is used to describe a system whereby a paper is scrutinized by people who were not involved in its creation but are considered knowledgeable about the subject.¹ So it should be considered an evaluation by an expert on research of other experts in the same field.² Although well recognized, unfortunately this technique is not formally taught but may improve with practice.

In the past 50 years the use of peer review has become the “gold standard” by which biomedical journals judge their papers. The first description of peer review took place in 1731 with a report from the Royal Society of Edinburgh.³ In 1893, the *British Medical Journal* and its editor Ernest Hart

place adding to the considerable body of literature that we have today on this topic.⁷⁻¹² As a result, the editorial processes has evolved to include peer review and based editing.¹³ Moreover the World Association of Medical Editors (www.wame.org) founded in 1990, with the aim to foster international cooperation and education of medical journal editors, has peer review as a quality assurance mechanism.

Rationale of peer review

There is now evidence that peer review improves the quality of articles¹⁵ and editors rely on it to make decisions on whether to accept or reject a manuscript.

To publish or perish: How to review a manuscript

How are the reviewers chosen?

It has been shown that the reviewers that produce the best-quality report tend to be younger, work at top academic institutions or are known to the editors.¹⁹ More recently, another study has come to the same conclusion and has advised on recruitment of reviewers among those with training in epidemiology or statistics, and near 40 years of age.²⁰ Moreover spending more than 3 hours on a review did not increase review quality¹⁹ and written feedback to reviewers (other reviewers' reports and the editor's decision letter) produced no improvement in performance.²¹ Of course one basic rule is that we should select reviewers who know the subject content of the work!

Although half-day workshop training did not improve subsequent review quality scores in average reviewers,²² e-learning based and more intensive programs may be better and warrant investigation.

Most journal editors inherit a database of reviewers within different areas of expertise that can be expanded by identifying researchers with similar articles cited in MEDLINE. New electronic platforms allow the editor to track deadlines and record the performance of reviewers.

Typically Journal editors choose 2-3 reviewers, however having 2 or three reviews does no seem to change the rejection rate.²³

There is some general belief that masking the reviewers to the identification of the authors may improve quality of peer review. Apart from not being easy to do as units can be readily identified, the success rate is low^{12,24} and the effect is negligible.²⁵ More recently some journals started to implement open peer review (where the identities of the author and the reviewer are known to each other) and the results are encouraging²⁶ although more research is needed on the value of open review and also if this inhibits especially younger reviewers from taking part.

Concerning reviewer selection, some journals also invite authors to suggest up to four suitable peer reviewers for their work. Indeed, examining the submission of original papers to *Thorax*, Hurst et al²⁷ have shown the outcomes were not much different though author selected reviewers tended to be more positive, the first decision was more likely to be positive and discordance with the editor's final

Table 1 Reviewer's duties

Provide honest, critical assessment
Maintain confidentiality
Avoid or disclose conflicts of interest
Accept to review only in his/her area of expertise
Agree to review only those manuscripts that can be completed on time
Report suspected duplicate publication or ethical concern
Write the review in a collegial, constructive manner

uniform!³⁰ So establishing uniformity is a major task!

Good editorial practice is well defined in the "Requirements for Manuscripts and Journals".³¹ Every journal should follow good editorial practice (summarized in Table 2).

Editorial decision-making should be based on the best manuscripts and those that are in the readership.

Table 2 Good Editorial Practice

Requirement	
Format of manuscripts	Follow the "Uniform Requirements for Manuscripts and Journals" (URM) guidelines
Confidentiality	Manuscripts should be handled with confidentiality
Conflict of interest	Conflicts of interest should be declared
Editorial freedom and integrity	Editors should maintain editorial freedom and integrity

How to review a manuscript: practical tips

The job of a reviewer is to assess the validity and importance of the work in the manuscript. The reviewers' reports will inform the decision of the journal editor that has the responsibility to accept or reject the paper. Reviewing a manuscript still remains a process based on the experience and personal background of the reviewer, as there is insufficient evidence to establish firm rules or recommendations. Nevertheless, different authors have put forward advices and practical tips based on experience.^{2,33,34} Some of these practical tips are summarized below. While mostly directed to inexperienced reviewers these tips may drive experienced reviewers to critically reassess their practice. Also, authors can take them in consideration when planning, conducting and reporting their studies.

Decide prudently on accept/reject an invitation

Reviewing a paper is an opportunity to improve one's skills and an intellectual challenge. In some settings it is an activity with curricular value, in others an unrecognized, back-stage work. When an editor invites a prospective peer reviewer, he or she can be either tempted to hastily accept the invitation or reluctant in adding an extra task to a busy schedule. The knowledge in the field of the study, any conflicts of interest and the availability of time to do the review should be carefully considered before making a decision.

The pressure to have quick editorial decisions is very high. The success of a scientific journal rests heavily on the fast publication of good research papers. Therefore the time to deliver a review is now 2 to 4 weeks. The prospective peer reviewer should decline the invitation if he/she has doubts the deadline can be met. Three questions can be asked before accepting a review task - a) how familiar is the prospective peer reviewer with the research question and methods of the manuscript?; b) is there any conflict of interest such as personal relations with authors, competing research interests or any direct or indirect financial gain?, and c) does the prospective peer reviewer have the time to deliver the review report in the requested time frame?

rejection of the manuscript. From the perspective of the reviewer is central for the success of the review by pointing out to the authors' needs and improving the message of the paper.

Write reviews you would be willing to read with as an author

Always explain your comments in a constructive, positive and polite way. Support your comments with useful examples. The criticisms should be specific and decisive; suggest the precise change to the sentence, paragraph, table, figure, etc. To be realistic, the recommendations should be achievable. Use specific examples, generalizations such as "never" or "always" should be avoided as they are unproductive. Provide examples that contradict the reviewer's statement. State the facts, do not make assumptions. Give reasons. Remember to point out the strengths of the manuscript. This is helpful for the authors. Examples of some of the reviewers' comments are: a) "the manuscript is critical, prevalent problem"; b) "the manuscript is (clear, straightforward, easy to read, well-designed study (appropriate for the design)".²⁸

The manuscript is the only source of information

The object of the review is the manuscript. The reviewer may also contain an on line summary of the manuscript. The peer reviewer should not consider previous or current work. No additional data or clarification should be requested from the authors during the review process. The reviewer should assume what is reported closely and carried out during the study. The reviewer has the obligation to report any suspicions to the editor.

The manuscript is privileged

The manuscript contains new data that has been kept confidential before publication.

To publish or perish: How to review a manuscript

Top 10 reasons for manuscript rejection

A manuscript may be rejected at editorial level, before the editor sends it to reviewers. Often, the reasons for immediate rejection are being inappropriate for the journal's readers (wrong journal), not fitting any category of publication within the journal (wrong format) or not following the journal's instructions for submission. The paper will not be accepted if it addresses a topic outside the scope of the Journal or is in a style/format completely different from the rest of the Journal's content.³⁸

After peer-review, the decision on the paper will depend on the comments presented by the reviewers and the editor's judgment about the priority for publication of the manuscript.

A few studies assessed the reasons for rejection of manuscripts in peer-reviewed journals.^{28,40-42}

A summary of these reasons is presented in Table 4. Most of these reasons can be corrected by the authors when revising the manuscript. While unrelated to the study quality, poor writing style can have a strong influence on the overall impression of the manuscript by both reviewers and editors. The main issue in poor writing is difficulty in following the logical flow of the manuscript rather than grammar errors or language issues.

An important reason for failure to publish a paper is not revising and resubmitting the manuscript after the peer

review. Too often authors give up or just chose another journal. A second submission to the same journal (based on the reviewer's comments) will substantially increase the chance of publication of the paper.

Writing the review

The process of writing the review is a skill that improves with experience. We find the personal example of Hoppin, Jr. very useful to the reviewer.

Today, the reviewing process starts from the editor with an invitation to review. General details of the paper and the time frame to conclude the review are provided. Also, the time frame to conclude the review are provided. After receiving the full paper, the prospective reviewer should discuss the paper with the editors about any potential issues. If the invitation is accepted, the reviewer should provide a full text of the manuscript change. At this time, the reviewer should provide a full text of the manuscript change. The content different from the original manuscript of interest previously undetected.

Table 3 Issues of manuscripts to assess during the review process and questions to address them (Table 3, 33, 39)

Importance of the research question	The reviewer's knowledge of the field is central to the importance of the question. However, when the question is close to the reviewer's own research special interest, the reviewer's personal interest in the topic weighting judgment?
Originality of the work	Do use bibliographic searches and systematic reviews to assess the manuscript to assess originality. What is the research question? Any methods? Does the data shed light on the controversy?
Relevance for the journals' readers	Put yourself on the role of the Editor: would the Journal be interested in this paper?
Usefulness for medical practice, teaching and science	A paper may be used to inform clinical decision making and for improving scientific knowledge. How can the paper be for each of these purposes?

Table 4 Frequent reasons supporting reviewers' recommendation for rejection of a manuscript (a)	
Insufficient problem statement	Not defining clearly and completely the research question (aims to answer)
Incomplete, inaccurate, or outdated review of the literature	While not essential to the validity and interpretation of the study, a poor review of literature can be viewed as an indication of how much the reviewer knows in writing the manuscript
Poor Methods or study Design	Inappropriate or incomplete statistics Sample too small or biased Inappropriate or suboptimal instrumentation Inadequate description of the Methods
Suboptimal Reporting of the Results	Inaccurate or inconsistent data reported Insufficient data presented Defective tables or figures
Getting Carried Away in the Discussion	Over interpretation of results
Poor writing	Difficulty in following the logical flow of the manuscript

Before starting writing the review report a number of general questions help the reviewer to appraise the manuscript.⁴⁴

- Why was the study done? Is it important?
- Have the authors adequately reviewed existing research?
- Does the work add enough to what is already in the published literature?
- Was there a clearly defined question?
- Was the design right for the question?
- Was the study ethical?
- Are the conclusions justified?
- Is there a clear message?
- Is it written in a clear, appealing style?
- Is this paper of interest to the readers of this journal?

In addition to these general questions it is very helpful to use specific checklists available to assess each study design. The EQUATOR network keeps updated resources on checklists and guidelines on reporting medical research literature.⁴⁵

The review report is now usually performed online in a web application that often includes a review form, confidential comments to the editor (not available for the authors), the recommendation to the editor to accept or reject the paper

1. A brief, one-paragraph summary of the study, including interpretation of the work. Remember the essence of the study. Do not forget to tell the authors the reviewer understands the study.
2. The reviewer's recommendation. Remember that a general recommendation for a manuscript can be "Accept for publication as is, with minor (mandatory) changes," "Reject for publication. If rejected, the manuscript may be resubmitted after correcting the problems identified. The reviewer's recommendation of the manuscript is: Accept for publication," "Reject for publication," "Reconsider After Major Revision," or "Reject for publication." General comments. Mostly on the clarity, logic, and novelty of the manuscript. If the design is not adequate to the study, the manuscript is well structured in a clear manner".
3. Specific comments. These are comments on the manuscript. For example, "The study included 89 participants that completed the study and 89 in the last sentence. Please clarify".

It is useful to address the issues in the order of importance. Both general and specific

To publish or perish: How to review a manuscript

Conclusions

Although peer review is not perfect and reviewers have a poor detection rate of errors in manuscripts,⁴⁶ it is the only available method to improve the quality of published papers. Until now nobody has produced a satisfactory alternative to it! The “gold standard” for the quality of any paper remains time-whether it survives a dozen years to be incorporated into review articles or textbooks.⁴⁷

Journal editors have to continually audit their procedures and apply the results of others to their own practices.⁴⁷

Reviewers receive very little preparation for performing reviews as part of their formal education, and short training interventions do not seem to improve their performance.⁴⁶

However in these times of materialism, it is encouraging that there are large numbers of professionals who are willing to offer many hours of their time to work without financial incentive! Peer review is an important service to the Medical and Research Communities. Participating in this process is valuable, voluntary work and, for the reviewer, is also an enjoyable task (most of the times at least).

In the case of the *Portuguese Journal of Pulmonology* we have to keep the tradition of respect, collegiality and empathy in all interactions during the Peer Review process. We have to feel honored and privileged to be selected as reviewers and to have the opportunity to interact constructively and make the work well.

As Bruce Squires stated about the creation of World Association of Medical Editors: “the fundamental purpose of medical journals (and their editors) should be to promote the science and art of medicine and the betterment of health”.¹⁴

References

1. Wager E, Godlee F, Jefferson T. What is peer review. In: Wager E, Godlee F, Jefferson T, editors. *How to Survive Peer Review*. London: BMJ Books; 2002. p. 3-12.
2. Sylvia LM, Herbel JL. Manuscript Peer Review—A Guide for Health Care Professionals. *Pharmacotherapy*. 2001;21:395-404.
3. Rennie D. Editorial peer review: its development and rationale. In: Godlee F, Jefferson T, editors. *Peer Review in Health Sciences*. London, England: BMJ Books; 1999. p. 1-13.
4. IV International Congress on Publication. Barcelona, Spain, 2002;287:2759-871.
5. Justice AC, Cho MK, Winker MA, et al. Does author identity improve peer review of a controlled trial. *PEER Investigator*. 1995;311:826.
6. Smith R, Rennie D. And now, 1995;311:826.
7. Squires BP. A global network for 1995;152:1757-9, 62-4.
8. Goodman SN, Berlin J, Fletcher DH. Quality before and after peer review. *Internal Medicine*. Ann Intern Med. 1998;129:100-4.
9. Rothwell PM, Martyn CN. Reproducibility in clinical neuroscience. Is agreement greater than would be expected? *Stroke*. 2000;31:1964-9.
10. Link AM. US and non-US submission bias. *JAMA*. 1998;280:246-7.
11. Garrow J, Butterfield M, Marshall V. Training and experience of editors of medical journals. *JAMA*. 1998;279:100-4.
12. Evans AT, McNutt RA, Fletcher DH. Characteristics of peer review of clinical trials. *J Gen Intern Med*. 1993;8:30-4.
13. Black N, van Rooyen S, Godlee F. Is a good reviewer and a good editor? *JAMA*. 1998;280:231-3.
14. Callaham ML, Knopp RK. Feedback by editors on quality of clinical trials. *JAMA*. 2002;287:2781-3.
15. Callaham ML, Wears RL, Waack R. A training session on peer review. *Ann Emerg Med*. 1998;32(3 Pt 1):30-4.
16. Schultz DM. Are three heads better than one? *Stroke*. 2010;41:277-92.
17. Cho MK, Justice AC, Winker MA, et al. Masking and what factors influence masking in peer review. *JAMA*. 1998;280:243-5.
18. Godlee F, Gale CR, Martyn CN. The review of blinding reviewers in clinical trials: a randomized controlled trial. *BMJ*. 2001;323:100-4.
19. Van Rooyen S, Delamothe T, Evans J. Telling reviewers that their signature is on the web: randomised controlled trial. *BMJ*. 2001;323:100-4.
20. Hurst JR, Howard EC, Wedzicha BA. Does the editor know best? *Thorax*. 2001;56:100-4.
21. Bordage G. Reasons reviewers reject manuscripts: the strengths and weaknesses of peer review. *BMJ*. 1999;319:100-4.

36. Provenzale JM, Stanley RJ. A systematic guide to reviewing a manuscript. *AJR Am J Roentgenol*. 2005;185:848-54.
37. Roberts LW, Coverdale J, Edenharder K, Louie A. How to review a manuscript: a "down-to-earth" approach. *Acad Psychiatry*. 2004;28:81-7.
38. Downs SH, Black N. The feasibility of creating a checklist for the assessment of the methodological quality both of randomised and non-randomised studies of health care interventions. *J Epidemiol Community Health*. 1998;52:377-84.
39. Jefferson T, Wager E, Davidoff F. Measuring the quality of editorial peer review. *JAMA*. 2002;287:2786-90.
40. Pierson DJ. The top 10 reasons why manuscripts are not accepted for publication. *Respir Care*. 2004;49:1246-52.
41. Von Elm E, Costanza MC, Walder B, Tramer MR. More insight into the fate of biomedical meeting abstracts: a systematic review. *BMC Med Res Methodol*. 2003;3:12.
42. Scherer RW, Dickersin K. Lan. results initially presented in abstract form. *Ann Intern Med*. 1994;272:158-62.
43. Hoppin FG, Jr. How I review an abstract. *Respir Crit Care Med*. 2002;166:166-7.
44. Wager E, Godlee F, Jeffers J. Checklists. In: Wager E, Godlee F, Jeffers J. *How to Survive Peer Review*. 2nd ed. London: BMJ; 2002. p. 51-5.
45. Available from: <http://www.evidencebasedmedicine.org/> [Dec 19].
46. Schroter S, Black N, Evans S, Godlee F. Do peer reviewers detect errors? *BMJ*. 1994;309:121-60-1.
47. Lock S. Does editorial peer review detect errors? *BMJ*. 1994;309:121-60-1.

Appendix: Checklist for the assessment of manuscript quality

Title of manuscript

1. Is the manuscript title descriptive, effectively reflecting the work performed?
2. Is it succinct, with parsimonious wording?
3. Is it interesting and will get attention of the readers?

Abstract and key-words

4. Is the structure adequate? Does it clearly identify the study aim, a description of methods; main results; conclusions?
5. Is the aim statement succinct and related with the manuscript content?
6. Does the methods section adequately identify the type of study and its main methodological aspects?
7. Does the methods section include a summary description of study participants (units of analysis, setting, sample size, selection criteria, etc.)?
8. Is a summary description of data collection methods included in the methods section?
9. Does the results section in the abstract reflect an attempt to summarize the main results in the abstract?
10. Are adequate summary measures and indication of the precision of the point estimates and standard errors (if applicable) presented in results section?
11. Are conclusions supported by results section?
12. The abstract should no longer than 250 to 300 words.
13. Are key-words adequately selected from the National Library of Medicine Mesh (medical subject headings)?

Introduction

14. Does the background presented allow the reader to establish the relevance of the study?
15. Does it provide a logical rationale for the hypothesis/aims of the study?
16. Are the aims or hypotheses of the study clearly stated, and structured as primary and secondary objectives?
17. Description of participants, methods, statistical analysis or results should not be presented in the introduction.

To publish or perish: How to review a manuscript

Appendix: Checklist for the assessment of manuscript quality (Continuation)

Variables description

26. Are variables studied and analyzed clearly described? (In accordance with the study type: in variables; intervention and outcome variables; exposure, disease and potential confounding factors; diagnostic tests and gold standards; etc.)

Statistical analysis

27. Is there a statistical analysis subsection present in the methods section?
 28. Is the statistical analysis appropriate given the study design?
 29. Is the statistical analysis appropriate given the type of variables analyzed?
 30. Is the implementation of adequate summary measures, measures of precision of the point estimates (confidence intervals or standard errors) and statistical significance tests (if applicable) proposed in the methods section?
 31. Are power and/or sample size issues considered?
 32. Is the software(s) used for the statistical analysis adequately cited and referenced?

Global assessment items

33. Is the participants and methods section clear and structured?

Results, tables and figures

34. Are results presented in a structured and logic sequence along the text? (Sub)Headings use appropriate?
 35. Are results adequately summarized?
 36. Are results in tables/figures repeated in the text of the manuscript? Results presented in tables/figures should emphasize or summarize important observations and should not unnecessarily overlap table/figure content.
 37. Are adequate summary measures, indication of the precision of the point estimates (confidence intervals or standard errors) and statistical significance (if applicable) presented in results section?
 38. Are statistical measures and tests described in the methods section actually presented in the results section? Is there an agreement between results and statistical methods described in the methods section and results section?
 39. Are all tables and figures self explainable and in accordance with the journal guidelines?
 40. Do all tables and figures have a clear legend, with an adequate description of its content?

Discussion

41. Are the main findings of the study synthesized?
 42. Are only results presented in the results section discussed? Main conclusions should follow from the results.
 43. Are limitations of the study adequately discussed?
 44. Was a critical comparison with the available literature in the field included (if available)? If not, the originality and relevance of the research work should be discussed and comparison with relevant areas should be included.
 45. Are justifications of conclusions well articulated?
 46. Are conclusions clearly stated and in relation with the results obtained?

References

47. Are references adequately structured and presented according to ICMJE uniform requirements for manuscripts submitted to biomedical journals? (References should follow Vancouver style).
 48. Are manuscript references of an adequate quality?