



Ministry of Health and Sports

Peer Review: Assessing Quality, Judging Importance, Preserving Confidentiality

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Presentation outline

- Definition of peer review
- History of peer review
- Principles for peer review process
- Guidelines for effective peer reviewers
- Evaluation of proposals or manuscripts
- Different types of peer review
- Responsibilities of peer review
 - Assessing quality
 - Judging importance
 - Preserving confidentiality
 - Meeting deadlines
- Criticism of peer review



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Definition of peer review

- A process of evaluation by colleagues with **similar** knowledge and experience¹
- A process of subjecting an author's scholarly work, research or ideas to the scrutiny of others who are experts in the **same** field²
- Grant reviews
- Manuscript reviews
- Personnel reviews
- Literature reviews
- Expert testimony



Objectives of peer review

- To act as a filter to ensure that only high quality research is published by determining the validity, significance and originality of the study
- To improve the quality of the manuscripts that are considered suitable for publication



History of peer review

- A Syrian physician (854-931 AD), first described the peer review process in “*Ethics of the Physician*”.
- In 1665, the French *Journal des sçavans* and the English *Philosophical Transactions of the Royal Society* were the first scientific journals to systematically publish research results.
- In 1731, the Royal Society of Edinburgh published in their *Medical Essays and Observations* where the review process was started.
- In 1752, the Royal Society of Edinburgh developed the “Committee on Papers” to review manuscripts before they were published in *Philosophical Transactions*.
- Peer review is now standard practice by most credible scientific journals, and is an essential part of determining the credibility and quality of work submitted.



Principles for peer review process

- Fairness
- Rigorous
- Transparency
- Independence
- Confidentiality
- Participation
- Continuous improvement



Guidelines for effective peer reviewers

- Scientific experts with specialized knowledge on the content of the proposal/manuscript, as well as by scientists with a more general knowledge base⁴

1. Be professional

2. Be pleasant

3. Be helpful

4. Be scientific

5. Be timely

6. Be realistic

7. Be empathetic

8. Be open

9. Be organized

10. Read the invite



Evaluation of proposals or manuscripts

- **Research question** -- Important & original
- **Title** -- Descriptive enough, clear & concise
- **Abstract/ Summary** -- Sufficiently informative
- **Introduction**-- Sufficient background information & identifiable the research question & hypothesis
- **Methods** -- Descriptive enough for replication
- **Results** -- Consistent text with information in the relevant and important tables and figures
- **Discussion** -- Clear & focused, conclusion with appropriate interpretation of the results, theoretical implications & practical applications, limitation of study
- **References** -- Used appropriately, cited accurately, formatted correctly



Different types of peer review

1. Open review

- Both the author and the peer reviewer know one another's identity

2. Single-blind review

- The reviewer's identity is kept private, but the author's identity is revealed to the reviewer

3. Double-blind review

- The identities of both the reviewer and author are kept anonymous.



Advantages and disadvantages of double-blind peer review

- **Prevents** the reviewer from **being biased** against the author based on their country of origin or previous work
- **Allows** the paper to be judged based on the **quality** of the content, rather than the reputation of the author
- Sometimes the reviewer can be **easy to determine** the identity of the author based on writing style, subject matter or self-citation, and thus, impart bias



Advantages and disadvantages of single-blind peer review

- Reviewer is more likely to provide **honest feedback** when their identity is concealed
- Allows the reviewer to make **independent decisions** without the influence of the author
- Reviewers who receive manuscripts on subjects similar to their own research may be tempted to **delay completing the review** in order to publish their own data first



Advantages and disadvantages of open peer review

- **Prevents** reviewers from
 - leaving malicious comments,
 - delaying completion of the review
 - being careless,
 - being honest for fear of developing bad rapport with the authors
- **Encourages** reviewers to be open, polite and honest without being disrespectful
- **Discourages** plagiarism amongst authors
- **Decrease** the number of people willing to participate, and leads to reviews of little value

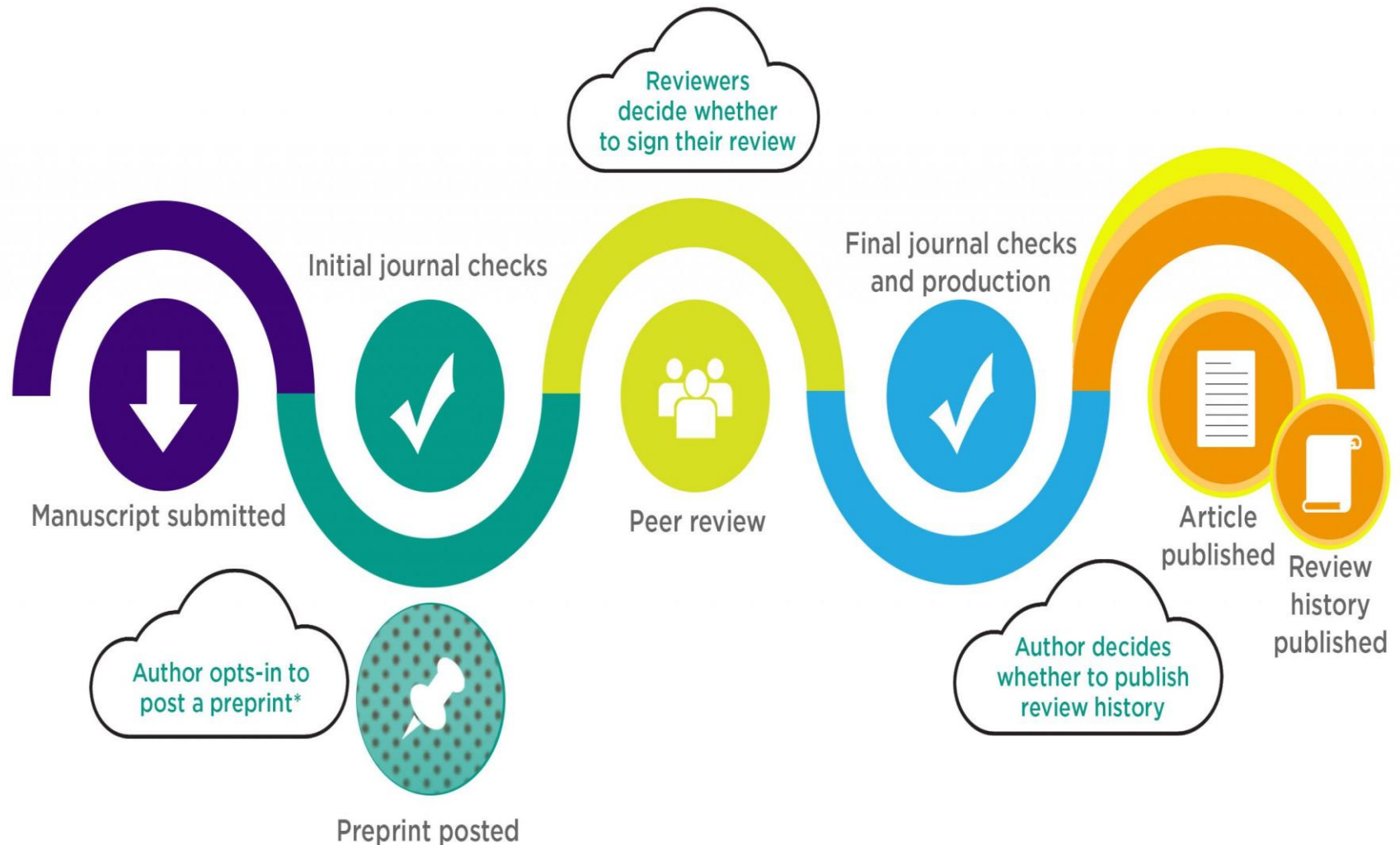


Transparent peer review⁵

- Readers can be offered a full peer review history
 - reviewer reports,
 - editor decision letters
 - the authors' responses
 - Own digital object identifier (DOI) to help readers easily reference and cite the peer review content
- Benefits
 - Enriching the scientific record
 - Credit for peer reviewers
 - Educational tools
 - Quality of feedback



Transparent peer review



* Preprint not offered for *PLOS Medicine*

Two experimental forms of peer review

1. Post-publication peer review

- post comments on published papers (Online publisher PLOS, BioMed Central)

2. Dynamic peer review

- conducted on repositories and is a continuous process, which allows the public to see both the article and the reviews as the article is being developed
- helps prevent plagiarism as the scientific community will already be familiar with the work before the peer reviewed version appears in print
- reduces the time lag between manuscript submission and publishing



Responsibilities of peer review & reviewers



Responsibilities of peer reviewers³

Toward authors

- **Providing written, unbiased feedback** in a timely manner on the scholarly merits and the scientific value of the work, together with the documented basis for the reviewer's opinion
- **Indicating** whether the writing is **clear, concise**, and relevant and rating the work's composition, scientific accuracy, originality, and interest to the journal's readers
- **Avoiding personal comments** or criticism
- **Maintaining the confidentiality** of the review process: not sharing, discussing with third parties, or disclosing information from the reviewed paper



Responsibilities of peer reviewers³

Toward editors

- Notifying the editor immediately if **unable to review** in a timely manner
- Alerting the editor about any potential personal or financial **conflict of interest** and declining to review when a possibility of a conflict exists
- Providing a thoughtful, fair, **constructive, and informative critique** of the submitted work
- Determining **scientific merit**, originality, and scope of the work; indicating ways to improve it; and recommending acceptance or rejection using whatever rating scale the editor deems most useful
- Refraining from **direct author contact**



Ethical Responsibilities of Reviewers³

- Confidentiality
- Constructive critique
- Competence
- Submitting timely manner
- Disclosure of conflict of interest



Improprieties of peer review

- **Misrepresenting** facts in a review
- **Unreasonably delaying** the review process
- **Unfairly criticizing** a competitor's work
- **Breaching the confidentiality** of the review
- **Proposing changes** that appear to merely support the reviewer's own work or hypotheses
- **Making use** of confidential information, idea or text to achieve personal or professional gain
- **Including personal criticism** of the author(s)
- **Failing to disclose** a conflict of interest that would have excluded the reviewer from the process



Responsibilities of Peer Review

- Assessing quality
- Judging importance
- Maintaining confidentiality
- Submitting reviews by timely manner



Assessing quality


Reviewer evaluates validity of the science, quality of experimental design, and appropriateness of methods (Most importance)



Reviewer evaluates significance of the research, importance of the findings whether it will advance the field and originality



Reviewer identifies any scientific errors and references that are missing or incorrect



Reviewer may identify any typographical or grammatical errors (Least important)



Assessing quality

Manuscripts or proposals should be internally consistent and conforms to the practices of their field of research.

- Assessing whether the research methods are appropriate
- Checking calculations and/or confirming the logic of important arguments
- Making sure the conclusions are supported by the evidence presented
- Confirming that the relevant literature has been consulted and cited
- Requesting additional data to be reasonable and fair



Assessing quality

Quality of research can be compromised by

- careless mistakes made in reporting data and/or listing citations
- the deliberate fabrication and falsification of data
- improper use of material by others (plagiarism);
- inaccurate reporting of conflicts of interest, contributors/authors
- the failure to mention important prior work, either by others or by the researcher submitting a paper for publication

Other deceptive or sloppy practices remains subject to debate.



Judging Importance

Reviewers ensure that

- It is important to do so, assuming a researcher could carry out a proposed research project.
- These research results are important enough to publish.
- A researcher has made important contributions to a field of study.
- This is evidence important enough to be used in setting policy.



Judging Importance

Peer reviewers can be influenced by:

- the stature of the researcher the research or the institution
- country of origin
- a preference for one research method over another, e.g., a clinical versus a laboratory approach
- the outcome of the studies under review



Judging Importance

- Takes time and more research to find out whether a line of investigation or a particular set of findings is important
- To lessen the impact of bias is
 - to write *transparent reviews*.
 - to *eliminate anonymous reviews*



Preserving Confidentiality

Unacceptable to do any of the following without getting permission:

- Ask students or anyone to conduct a review
- Use an idea or information before it becomes publicly available
- Discuss grant proposals or manuscripts with colleagues
- Retain a copy of the reviewed material
- Discuss personnel and hiring decisions with colleagues who are not part of the review process
- Use information in a grant application or manuscript to speed up reviewers' research



Preserving Confidentiality

- If a reviewer is not comfortable protecting confidential information, then do not agree to be a peer reviewer.
- Reviewers should give respect to the careers of other researchers.



Myanmar Health Registry Website

<https://www.mhrr-mohs.com>

International Clinical Trials Registry Platform (ICTRP)

https://www.who.int/ictrp/trial_reg

Telenor

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apps.who.int/trialsearch/Trial2.aspx?Trial

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World Health
Organization



International Clinical Trials
Registry Platform
Search Portal

Home Advanced Search List By Search Tips UTN ICTRP website REGTRAC Contact us

Main

Note: This record shows only 22 elements of the WHO Trial Registration Data Set. To view changes that have been made to the source record, or for additional information about this trial, click on the URL below to go to the source record in the primary register.

Register: TCTR
Last refreshed on: 15 June 2020
Main ID: TCTR20200305003
Date of registration: 05/03/2020
Prospective Registration: Yes
Primary sponsor: FAME Pharmaceuticals Industry Co., Ltd.
Public title: Effect of Astragalus membranaceus (Fisch.) Bunge extract containing Astragaloside IV on renal function and proteinuria in patients with diabetic nephropathy
Scientific title: Effect of Astragalus membranaceus (Fisch.) Bunge extract containing Astragaloside IV on renal function and proteinuria in patients with diabetic nephropathy
Date of first enrolment: 01/04/2020
Target sample size: 60
Recruitment status: Pending (Not yet recruiting)
URL: <http://www.clinicaltrials.in.th/index.php?to=regtrials&menu=trialsearch&smenu=fulltext&task=search&task2=view1&id=5891>
Study type: Interventional
Study design: Randomized controlled trial
Phase: Phase 1/Phase 2

Countries of recruitment

Myanmar

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Key inclusion & exclusion criteria

Inclusion criteria: 1. Diabetic nephropathy patients (new cases) with urinary albumin-to-creatinine ratio ≥ 30 mg/g and/or sustained reduction in eGFR below



Criticism of peer review

- Effective screen for good quality
- Superficial review conducted by scientific conferences
- Unable to detect plagiarism
- Limited numbers of competent reviewers
- Delay dissemination of new knowledge into the scientific community



Conclusion

- Reviewers should be aware of ethical issues and problems throughout the review process, and even after submitted.
- When in doubt about ethical issues, the reviewer should discuss his/her concerns with the editor or the journal staff.
- The reviewer should always work to provide reviews that meet high standards of ethics as well as high standards of science.



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Thanks for your attention

