HIV ADVANCED (YEAR 2) PHARMACY RESIDENCY

PEER REVIEW OF SCIENTIFIC MANUSCRIPT

Goal of the activity:

Develop skills and gain experience in critically appraising and giving constructive feedback to editors and authors for manuscript(s) submitted to a pharmacy or medical journal for publication.

Objectives of the activity:

1. Critically appraise a manuscript submitted for publication, identifying the major and minor limitations of the study / manuscript;
2. Judge if a manuscript should be approved for publication, approved after minor modifications, resubmitted for peer-review after major modifications, or rejected;
3. Communicate constructive feedback to the editor and authors in a respectful manner.

Expected outcome:

The resident is expected to successfully complete at least one peer review of a scientific manuscript during the residency year. If the resident does not achieve the expected level of performance (i.e., proficient) with the first peer review, a second peer review of a scientific manuscript will be requested and must be successfully completed.

A resident who wishes to do more than one peer review of a scientific manuscript during the residency year is welcome to do so as long as it does not significantly interfere with their other residency program rotations and related activities or hinder their work-life balance. Each peer review of a scientific manuscript (i.e., not just the first) will be self-assessed and assessed by a coordinator or preceptor.

Supervision:

The resident will be supervised and assessed for this activity by a residency preceptor. This activity will be included in a rotation. The resident is expected to complete this activity independently but may consult his/her preceptor for any questions.

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Process:

1. During the course of the residency year, the resident will be assigned a scientific manuscript to review for a medical or pharmacology journal or will be asked to peer review a project manuscript from a general (Year 1) pharmacy resident.

2. The type of manuscript to peer review can vary. Possible types of publications include, but are not limited to:
   - Case report / case series
   - Pharmacokinetic study / drug-drug interaction study
   - Observational study/pilot study
   - Randomized, controlled interventional study
   - Therapeutic review
   - Systematic review / meta-analysis / scoping review
   - Guidelines/clinical recommendations

3. The resident must determine his/her personal objectives for this activity.

4. The resident should read the manuscript a first time to have a general idea of the project and results. The resident should then read the manuscript a second time (and more times if needed), to review the manuscript in detail.

5. Aspects to consider in the critical appraisal are:

   a. Is the abstract complete and does it appropriately reflect the findings of the paper?
   b. Is the research question relevant and how does it add to the existing body of literature in the studied population? Is the research question applicable to other populations?
   c. Is the methodology adequate to answer the research question? (e.g. study design, inclusion/exclusion criteria, study outcomes, statistical analyses, etc.)
   d. Are the results presented clearly and completely? Do the results appear accurate? Are important results missing?
   e. Are tables, figures and appendices clear and do they complement the information in the text?
   f. Do the authors correctly interpret the data?

g. Does the discussion/conclusion reflect the main findings of the paper? Do the authors discuss the implications of the study findings and offer suggestions for future research? Do they present the key limitations of the study?
h. Are the references relevant, complete and formatted according to journal specifications?
i. Is the quality of the language appropriate?
j. Is the manuscript written in a format consistent with journal specifications?

6. The resident must write a report providing constructive feedback to the editor (brief) and to the authors (more detailed) using respectful language.

7. The report to the editor should include a clear recommendation on acceptance, revision or rejection with a rationale based on the quality of the study / manuscript and importance of findings. The resident can also comment on the priority of manuscript publication and whether an accompanying editorial is required.

8. The report to the authors should include:

    a. A brief summary of the study (a few sentences) that describes the research question and methodology chosen. This is helpful for the editor as well as demonstrates comprehension of the study.
    b. Strengths of the study / manuscript.
    c. Major and minor limitations with specific suggestions to improve the manuscript. The comments should clearly identify the sections that need improvement (ie, page / line #, etc).

9. The comments to the editor and comments to the authors submitted to the preceptor for assessment must be blinded (i.e., remove author names, institution, journal).

Assessment:

The Peer Review of Scientific Manuscript Assessment Form will be used for this activity. The resident is expected to complete this form as a self-assessment after completing the activity. The preceptor will also complete the same assessment form, including the assessment of the resident's personal learning objectives. The resident and preceptor will then review the assessment together. The resident and preceptor must then sign the assessment forms in a timely manner (i.e., ≤ 1 week after completion of the peer review activity).

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The resident must achieve an overall score of proficient to pass this activity. See above (section expected outcome) for remedial action if the first peer-review of a scientific manuscript activity is not passed.

References / Useful tools:

Alam M. How to review a manuscript. Dermatol Surg. 2015;41(8):883-888.

Cornell College. Evaluation of Critiques of Scientific Articles. Mount Vernon, Iowa, USA Available at : https://www.cornellcollege.edu/LIBRARY/faculty/focusing-on-assignments/tools-for-assessment/evaluation-of-critiques-of-scientific-articles.shtml (consulted July 15th 2020).

Hoppin FJ. How I review an original scientific article. Am J Resp Crit Care Med. 2002;166:1019-1023.

Tandon R. How to review a scientific paper. Asian J Psych. 2014;11:124-127.

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