Why Manuscripts Fail Peer Review: predictors of rejection and an examination of the typical peer review process

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Disclosure Statement

I have no competing interests to disclose

I receive a salary for functioning as the Executive Editor of Headache

Predictors of Rejection

How peer review works

Rejection rates
  Immediate rejections
  Other influences on the decision making process

Common reasons for rejection

Handling revisions
How Peer Review Works

"Peer Review is the critical assessment of manuscripts submitted to journals by experts who are not part of the editorial staff."
International Committee of Medical Journal Editors. Uniform Requirements for Manuscripts Submitted to Biomedical Journals

"Peer review means that other scientific experts in the field check research papers for validity, significance and originality – and for clarity."
Sense about Science "I Don’t Know What to Believe" (2005)

…or at least that is the theory

Peer Review Workflow

Submitted manuscripts checked-in & triaged

Editor-in-Chief:
- Selects Associate Editor ➔ pick reviewers
- Assigns reviewers directly

Reviewers evaluate manuscript ➔
- Methodology/Statistical Consultants

Critiques are appraised ➔

Decision is rendered

Rejection rates

- Some typical rejection rates:
  - JAMA - 91%, n~6,000 submissions
  - BMJ - 93%
  - Archives of Neurology ~ 80%
  - Headache - 65%
- Peer review is not a lottery (not all papers are equal):
  - rejection rate is not a predictor of likely success
- Variance by article type:
  - case reports - high chance of rejection
  - review articles - greater likelihood of acceptance
- Open Access journals are proliferating
  - Rejection rates typically lower
  - Largest OA journal: PLOS One - rejection rate of 30%
Deciphering the Immediate Rejection

- Journals increasingly rejecting immediately
  - Counteracting submission inundation
  - Increased reviewer rejections of invitations to review
  - Increasingly conscious of the Impact Factor
    - Case reports attract few - frequently rejected without review by higher quality journals
- Editors are adept at spotting papers that would otherwise fail to clear peer review

Deciphering the Immediate Rejection

- Typical reasons for immediate rejection
  - Outside scope of the journal
  - Confirmatory work
  - Regional interest only
  - Obviously underpowered results
  - Glaring methodological failing

- What should you do?

Factors influencing the final decision

- Strength of support from the Reviewers
- Recommendations of the Reviewers and Associate Editors
- Originality
- Methodology
- Quality of data
- Publication priority
- How much a paper advances current understanding
- Patience and effort – willingness of a journal to shepherd a manuscript through the revision process
Variables in the peer review process

- Manuscript assigned to tough, thorough reviewers
- Conversely, inattentive peer review allows weak paper through
- Current acceptance rates
- Backlog of material
- "First to market"
- Article type (reviews over case reports)
- Paper on topic of interest to Editor at a given time

Universally common reasons for rejection

- Flaws in the study design
- Irreproducible results
- Results that are not generalizable
  - Small sample size
  - Problematic control groups
- Predictable or widely-known outcomes
  - Nominal increase in our understanding
  - Solely regional/cultural addition to established knowledge
- Inappropriate, or underpowered, statistical analyses
- Weak, or outdated, literature search
- Sloppy presentation

Common reasons for rejection for Headache

Examined articles rejected by Headache over a 6 month sample period in 2008:
- 79% of papers (excluding Clinical Notes and Letters) had methodological problems
- 43% poor English/weak structural composition
- 30% conclusion was wrong or very debatable
- 27% overstated claims
- 27% severe statistical issues
- 87% of papers that failed to include a reporting guideline checklist were rejected

These reasons are not mutually exclusive
Common reasons for rejection: methodology

Methodological weaknesses often lead to rejection of paper:
- Failure to specify research questions and hypotheses
- Failure to adhere to current diagnostic conventions
- Outcome assessment with unconventional or non-validated measures

Headache Rejections: Methodological problems

“this study lacks a sound description of the methods used and a detailed description of the features found”
“Laboratory methods are not explained”
“Methods are too succinct”
“It is unclear how blinding was handled [during] treatment”
“The authors did not discuss the mechanisms of…”
“The authors did not discuss the patient history of…”
“The case has to be better explained. Clinical picture, medications being taken, time of onset of symptoms and the diagnosis made first”

Headache Rejections: Methodological problems

“[the authors] use a questionnaire which has not been validated”
“This study does not have a control group”
“I have significant concerns regarding the lack of a comparison/control group”
“The absence of a xxxx-only treatment arm at any dosage makes it impossible to determine whether xxxx has any effects on efficacy, safety, or tolerability”
Reasons for Rejection: overstating claims

- What are the main claims of the paper?
  - How significant are they?
  - Are the research questions and hypotheses adequately stated
  - How novel are the claims?
- Are the claims supported by the evidence?
  - If not, explain what further evidence is required
- Are the claims appropriately discussed within the context of existing literature?
- Is the research question an important one?
  - Is it relevant?
  - Is it interesting?

Headache Rejections: Overstated claims

“The results – [alongside] the methods employed - do not support the title nor conclusion of the manuscript”

“[authors should] replicate their initial observation in an independent dataset…[then] the conclusion would be validated”

“Reporting of trends is interesting but if statistical significance is not present, do the trends represent fact?”

Headache Rejections: does anyone care?

- Has the research question been clearly articulated?
- Is your research question of broad interest?

“The question that comes to mind during the review of the manuscript is the following: why is it so important to understand which patients develop…”

“why is this case important? - this should be included in the introduction and discussion”
How to Handle Revisions

- Respond to each reviewer comment point-by-point
- Not acceptable to simply state: “we agree with all the reviewer comments and have made the changes”
  - State in detail what you changed
  - If the submission system has a space for an Author Response, include your comments there, not in a new cover letter. This Author Response goes to the reviewers
  - Track changes or use highlighter function, bold text
- Authors risk rejection for failing to make a good faith attempt to either amend paper as directed or argue a point counter to the reviewer comments