Writing a Manuscript

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When to write a manuscript?

- How much data are available?
- Is there a comprehensive story to tell?
- Extremely novel finding?
- Possibility of competition?!
- Desperate need for publication?
Which journal?

- Objective assessment of your data
- Your standing in the scientific field
- Calls for papers, your reference list
- Aims and Scope

The Journal of ....... publishes papers based on original research that are judged to make a novel and important contribution to understanding the molecular and cellular basis of biological processes.

The Journal of ....... publishes information on physical, pharmacological, in vitro and clinical properties of individual antimicrobial agents (antiviral, antiparasitic, antibacterial, antifungal agents, etc.)

- Consider turnaround times
- Contact editors before submission
Information gathering and writing

- Instructions to authors
- Format specifications
- Internet as a source of ‘how to write manuscripts’

Use of language
- Command over English
- Active *versus* passive voice
- Past tense *versus* present tense
- Strictly no incorrect grammar, misspellings or typos
Anatomy of a research manuscript

- Title
- Abstract
- Introduction
- Materials and Methods
- Results
- Discussion
- Conclusion
  - Tables
  - Figures and Legends
  - Author contributions
  - Acknowledgements
  - References
Abstract
Persuade the reader to continue

Include
✓ The problem
✓ The purpose
✓ The methods
✓ The major findings
✓ The interpretations
✓ The implications

Avoid
✗ Lengthy background
✗ Lengthy descriptions of methodology
✗ References to literature
✗ References to figures, tables
✗ Acronyms
Introduction
Retain the reader, draw him in

Include
- Context
- Need
- Task
- Object of the document
- References

Avoid
- Too little information
- Too much information
- Confusing structure
- Unclear statement of purpose
Methods
Enable reproduction of your data

Include

- Samples/ participants
- Pre-experiment handling and care
- Sample preparation
- Experimental procedures
- Statistics
- Your special choices
- Approvals

Avoid

- Too little information
- Too much information
- Background
- Too verbose descriptions
- Results
- Sources of error
- Non-technical usage of technical terms
Results
Focus on what happened

Include

✓ Accurate descriptions
✓ Logical connectors
✓ Message of each paragraph
✓ Suitable sub-headings

Avoid

✗ Raw data
✗ Redundancy
✗ Discussion and interpretation
✗ Materials and methods
✗ Too much text
Discussion
Put things in context

Include

- Interpretation of results
  - Hypothesis
  - Previous studies
- Sources of anomaly/error
- Potential answers to open questions
- Next steps

Avoid

- Elaborate description of results
- New results
- Too broad statements/sweeping conclusions
- Ambiguity in data sources
Conclusion

End it well; leave an impact

- Most interesting outcome(s)

- Future perspectives
  - Firm plans for yourself, colleagues
  - Invitation to the readers

- Do not repeat Introduction/Discussion

- Avoid biased statements based on preconceived notions
Figures and Legends

- High resolution (TIFF, 300-600 dpi generally)
- Simple, clear format
- Neat, legible labels
- Informative captions
- Indication of error/deviation
Author contributions
*Be explicit and honest*

Acknowledgement
*Be thorough and fair*
- Scientific input
- Technical assistance
- Financial support

References
*Be consistent and careful*
Review Articles

Approach
- Narrative review
- Systematic review

Objective
- Status quo review
- History review
- Issue review
- Theory/model review

Mandate
- Invited review
- Commissioned review
- Unsolicited review

need for a literature review
need for a review of reviews
need for the identification of research questions
need for a review pointing out the need for more research

amount of published research

amount of literature reviews

Pautasso, M (2013)
Writing a review: 6 simple(?) rules

1. Define (topic, audience, type of review)
2. Search (and re-search!)
3. Focus, but retain broad interest
4. Be critical and consistent
5. Make use of feedback
6. Include your own relevant research, objectively!
Cover letter

- Type of paper submitted (article, review, note)
- Short introduction to the article
- Less about the content, more about the context
- Originality and impact of the paper
- Names and contact information of all authors
- Potential reviewers
<table>
<thead>
<tr>
<th>Most common criticisms</th>
</tr>
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<tbody>
<tr>
<td>Importance of the topic</td>
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<tr>
<td>Insignificant research question</td>
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<tr>
<td>Rehash of established facts</td>
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<tr>
<td>Not generalizable</td>
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<tr>
<td>Study design</td>
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<td>Poor experimental design</td>
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<tr>
<td>No hypothesis</td>
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<tr>
<td>Vague/inadequate method description</td>
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<td>No control or improper control</td>
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<tr>
<td>Inappropriate statistical methods</td>
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<tr>
<td>Interpretation of findings</td>
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<td>Erroneous or unsupported conclusions</td>
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<td>Inadequate link of findings to practice</td>
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<td>Failure to consider alternative explanations</td>
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<td>Unexplained inconsistencies</td>
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<tr>
<td>Overall presentation</td>
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<tr>
<td>Poor organization</td>
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<td>Too long and verbose</td>
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<tr>
<td>Poor grammar and spelling</td>
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<tr>
<td>Excessively self-promotional</td>
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</tbody>
</table>
Aim high
Cater to the audience
Compose a compelling story
Enhance its appeal
Pay attention to detail
Take guidelines seriously
Ensure every step is ethical
Do not fear rejection