Publish or Perish: Moving from Abstracts to Papers

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Nothing in science has any value to society if it is not communicated...

Anne Roe

Every study has a ‘best before date’
Goals and Objectives

Goal: To provide practical information on publishing research.

Objectives:

A) To discuss barriers to publishing and strategies to overcome these

B) To describe approaches to selecting the appropriate journal for your paper and how to write for that journal.

C) To discuss considerations in determining authorship.

D) To explain the manuscript review process and how to approach the rebuttal.
Do I have enough data to publish?
Getting Ready

- Set aside sufficient time
- Identify appropriate journal
- Outline the manuscript
- Identify co-authors
- Gather data & references

There is no elevator to success. You have to take the stairs
- Author unknown
How do I select the right Journal?

1. Scope of the journal
2. Readership of the journal
3. Prestige of the journal (e.g. Impact Factor)
4. Costs
5. Likelihood of having the submission accepted

Impact Factor

\[
\text{IF} = \frac{\text{Citations in a given year}}{\text{# of articles published in previous 2 years}}
\]

- Biol Reprod: 3.3
- Fertil Steril: 3.97
- Hum Reprod: 3.86
- Hum Reprod Update: 7.04
- NEJM: 47.05
- JBC: 5.328
H-index

• Developed by Jorge Hirsch in 2005 as a metric for quantifying the output of an individual researcher
• H = number of papers with at least H citations
• Example

<table>
<thead>
<tr>
<th>Publication</th>
<th>number of times cited</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>450</td>
</tr>
<tr>
<td>2</td>
<td>41</td>
</tr>
<tr>
<td>3</td>
<td>23</td>
</tr>
<tr>
<td>4</td>
<td>15</td>
</tr>
<tr>
<td>5</td>
<td>9</td>
</tr>
<tr>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td>9</td>
<td>1</td>
</tr>
</tbody>
</table>

H index = 6
Author has published at least 6 papers that have each received at least 6 citations

Scopus, Web of Science, Google scholar – H-index will vary as it is based upon articles tracked in the particular database

Articles in higher impact factor journals are cited more frequently but only on average
Outlining the manuscript

Four “Whats”
1. What is the question or purpose? (Introduction)
2. What did you do? (Methods)
3. What did you find? (Results)
4. What does it mean? (Discussion)

As you draft your manuscript, constantly keep in mind the need for accuracy, clarity, and brevity
Title

• Titles can affect journal reviewers’ and editors’ impressions of the quality of your work, whether readers can find your work once published, and whether readers will be interested in reading your work.

• Strong titles have three elements: keywords, emphasis, and impact.

• Always check the author instructions for your target journal for title requirements before submission.

• Avoid using abbreviations, filler phrases, and humor.

• Keep your title brief and focused on the most important point in your manuscript.

http://www.biosciencewriters.com/Writing-Strong-Titles-for-Research-Manuscripts.aspx
Abstract

The most important section as it will be read by the most people. In addition, will be the first thing that editors and reviewers read.

Should be written in past tense, does not contain references or commercial names and has FEW defined abbreviations.

X-check consistency.
Introduction

- A succinct, to the point narrative that includes vital background info and explains the rationale clearly and conveys why the study is necessary/important.

- Introduction should always conclude w/ a direct statement about the purpose (hypothesis/objectives) of the study.

- The purpose/objectives is the focal point by which the paper will be assessed.
Methods

Describe how the research was done, materials (including sources) used, study population/demographics, ethics approval, and procedures.

Do not make the reader guess what type of study design you used (e.g. retrospective/prospective).

Should be written in the past tense, avoiding jargon and undefined acronyms.

In sufficient detail that a knowledgeable reader could reproduce the study/experiment - but do not repeat details of established methods.
Results (from JK)

Take longer to write, an incremental approach is best using the following rules

1. Maximize data presented as Tables, or as Figures.
2. Text directs reader to pertinent significant observations in Tables and/or Figures
3. Use text where a table can be replaced by 2-3 sentences.
4. Use term “significant” where statistically so (insert data, test type, significance and p value.
5. Otherwise do not comment on data not achieving significance (avoid “trends”)
6. 1-2 pages max, less is better, implying great Tables and Figures.
Figures

1. Be mindful as project evolves of relevant Figures/Tables – make sure the format and resolution are adequate for Journal publication.

2. Where needed, seek help to use Photoshop or Illustrator in order to organize Figures as panels.

3. Create Figure legends, grouped as word text.

4. Table legends are beneath each Table.

5. References, Figure legends, Tables, then Figures.

6. Tables and Figures must stand alone.
Focus on strong tables

### Table 1
Maternal, delivery and perinatal characteristics of 262 singleton pregnancies affected by severe pre-eclampsia and/or IUGR.

<table>
<thead>
<tr>
<th>Pregnancy affected by severe pre-eclampsia and/or IUGR</th>
<th>Males  (n = 140)</th>
<th>Females (n = 122)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maternal demographics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Median (range) age, years</td>
<td>31 (16–43)</td>
<td>32 (18–44)</td>
</tr>
<tr>
<td>Primigravida</td>
<td>58 (41.4)</td>
<td>46 (37.8)</td>
</tr>
<tr>
<td>Mode of delivery</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vaginal</td>
<td>8 (5.7)</td>
<td>1 (0.8)</td>
</tr>
<tr>
<td>Cesarean section</td>
<td>89 (63.6)</td>
<td>87 (71.3)</td>
</tr>
<tr>
<td>Termination of pregnancy</td>
<td>43 (30.7)</td>
<td>34 (27.9)</td>
</tr>
<tr>
<td>Disease pathology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Severe IUGRa</td>
<td>88 (62.9)</td>
<td>65 (53.3)</td>
</tr>
<tr>
<td>Severe pre-eclampsia</td>
<td>92 (65.7)</td>
<td>86 (70.5)</td>
</tr>
<tr>
<td>HELLP syndromeb</td>
<td>32 (34.8)</td>
<td>27 (31.4)</td>
</tr>
<tr>
<td>Placental abruption</td>
<td>2 (1.4)</td>
<td>5 (4.1)</td>
</tr>
<tr>
<td>Delivery information</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Median (range) gestational age at delivery, weeks</td>
<td>28 (22–32)</td>
<td>29 (22–32)</td>
</tr>
<tr>
<td>Median (range) birth weight, g</td>
<td>785 (95–1984)</td>
<td>805 (120–1640)</td>
</tr>
<tr>
<td>Birth weight &lt; 10th percentile</td>
<td>93 (66.4)</td>
<td>75 (61.5)</td>
</tr>
<tr>
<td>Birth weight &lt; 3rd percentile</td>
<td>53 (37.9)</td>
<td>43 (35.2)</td>
</tr>
<tr>
<td>Perinatal outcomes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alive</td>
<td>93 (66.4)</td>
<td>86 (70.5)</td>
</tr>
<tr>
<td>Stillbirth</td>
<td>38 (27.1)</td>
<td>31 (25.4)</td>
</tr>
<tr>
<td>Neonatal death</td>
<td>9 (6.4)</td>
<td>5 (4.1)</td>
</tr>
</tbody>
</table>

Data are expressed as a number (%) unless otherwise specified. IUGR, intrauterine growth restriction; HELLP, hemolysis, elevated liver enzymes, low platelets.

a Defined as absent or reversed end diastolic flow on Doppler ultrasound and a birth weight <10th percentile for gestational age and sex.

b Expressed as percentage of women with coexistent pre-eclampsia.
Discussion

- Places the study in context for the reader
- Why are your findings new and important
- Provides an interpretation of your results and indicates the implications
- Acknowledges sources of potential bias, imprecision, or limitations
- Relates the findings to the objective listed in the Introduction
- Is not a complete review of the literature
Discussion Framework

1. Corresponds to results but does not repeat them.
2. Avoid statements beyond what the data support.
3. Speculations on possible interpretations, rooted in fact, are allowed.
4. Indicate how your results relate to existing literature—attempt to resolve contradictions.
5. Hypothesis generation if results differ from existing literature.
6. Indicate Strengths and weaknesses - be honest and up-front.
7. Be clear about what is new without exageration – avoid ‘novel’, ‘first-time’.
8. Indicate clinical implications and conclusions.
9. The conclusion or last paragraph shows how the work advances the field from the present state of knowledge.
10. Revise extensively – whether you may need more experiments/data will become apparent.
The following outline, adapted from Docherty and Smith,\textsuperscript{4} is one way of organizing the Discussion section. Each of the five points would usually rate a paragraph.

1. A brief (no more than one or two sentences) restatement of the principal findings.
2. A balanced analysis of the strengths and weaknesses of the present study.
3. Relation of the study’s strengths and weaknesses to other reports, stressing especially any differences in results.
4. Suggestion of potential mechanisms of the observations and the study’s meanings for researchers, clinicians, or policymakers.
5. Questions raised by the findings and their implications for additional research.
Referencing

Discipline yourself to

- “Cite while you write”
- Only cite what you have read in depth
- Only cite original peer-review papers
- Cite the earlier original observation
Order of Activities

1. Prepare and order the figures and tables.
2. Write the Methods based upon the data to be included.
3. Write up the Results based upon the figures and tables.
4. Write the Discussion.
5. Write a clear concluding sentence or paragraph.
6. Write a compelling introduction.
7. Write the Abstract.
8. Compose a concise and descriptive Title.
9. Select Keywords for indexing.
10. Write the Acknowledgements.
11. Finalize and format the References.
Who Should Be Included as an Author?

- There is no universally agreed definition of authorship.
- As a minimum, authors should take responsibility for a particular section of the study.
- The award of authorship should balance intellectual contributions to the conception, design, analysis and writing of the study against the collection of data and other routine work.
- If there is no task that can reasonably be attributed to a particular individual, then that individual should not be credited with authorship.
- All authors must take public responsibility for the content of their paper. This means they have read and approve of the final version.
- The multidisciplinary nature of much research can make this difficult, but this may be resolved by the disclosure of individual contributions.
- Medical writers can be legitimate contributors, and their roles, affiliations, and potential conflicts of interest must be disclosed.
Examples of contributions that do not qualify for authorship but that should be acknowledged in the paper

- Providing funding, technical advice, reagents, samples, or patient data.
- Providing students or technical personnel who perform studies.
- Routine collection of data.
- General supervision of the research group.
Authorship Responsibilities

• To gather and interpret data in an honest way.
• To present a concise and accurate report of the research and an objective discussion of its significance.
• To give due recognition to published work relating to the submitted manuscript by way of correct reference and citation.
• To inform the editor of related manuscripts under consideration for publication by the same author in any journal, on submission of their current manuscript.
• To ensure that a manuscript is submitted for publication in only one journal at a time.
• To give due acknowledgement to all workers contributing to the work.
• To declare all sources of funding for the work in the manuscript, and also to declare any conflict of interest.
• In cases where a study involves the use of live animals or human subjects, the study must adhere to animal or human REB standards.
Authorship Order

• 1\textsuperscript{st} author: Person who did the majority of the work and who usually writes the first draft of the manuscript

• Last author: Senior author who provides support

• Co-authorship: those in between – positioning is important
Falsifying data, plagiarism, reference omissions, false priority statements, 'hidden' multiple publication of the same data and incorrect authorship are serious ethical offences.
Peer Review

• Acceptance with minor corrections is rare, so expect criticism that makes you uncomfortable!
• Respond to each and every comment
• Likely more than 50% are easy fixes – so you are half way there....
What does the review process entail?

Reviewers are asked to consider the originality of the scientific work and to evaluate the scope of the manuscript with respect to the broad readership of the journal. They are asked to:

• Comment/Rank importance of findings
• Consider/Rank the quality of experiments and data analysis
• Consider the clarity of presentation
• Provide an overall rating
• Provide points in favor/ points detracting
• Provide confidential remarks to the Editor
• Provide remarks to the author for explanation, improvement, or rebuttal
Responding to Peer Review

• Copy and paste the document of the Reviewer’s comments into a new word document, then BOLD the entire text.

• Next, separate each reviewer criticism, and then begin to type the responses in normal text, referring to the page and line # of the submission.

• Write in a style “to the editor” – not the reviewer – because the editor has the final decision

• Some peer review comments have no right answer, or you disagree

• Indicate where you disagree, but would concede if the editor wished (e.g. keep in table or figure in vs out..)

• Make changes to the manuscript using “track changes”
Troublesome Terms

Another aspect of accurate writing is choosing the correct term. The following terms often are used incorrectly:

And/or: Considered by many semanticists to be inappropriate in most cases; either “and” or “or” (depending on the context) alone will nearly always suffice.

Cesarean, cesarean delivery, or cesarean birth instead of cesarean section: Most etymologists believe that “cesarean” and “section” originated from Latin verbs that both mean “to cut,” therefore, cesarean section is a redundancy. Do not capitalize cesarean.

Demise: An archaic form; “death” is usually a better choice, and less euphemistic.

Diabetic: The use of this word as a noun to describe someone with the disease is considered by some to be condescending. Therefore, “diabetic” should be used only as an adjective.

Dilatation, dilatation: Dilatation is the act of dilating (eg, a cervix, a pupil), whereas dilatation is the state of being dilated. The first describes a type of movement, the second describes the result of that type of movement. Examples: “Dilatation began when contractions were 10 minutes apart.” “After 3 hours of labor, dilatation was 5 cm.”

Down syndrome: This eponym should not be written in the possessive form, because Down neither owned nor had the condition. See Dorland’s Illustrated Medical Dictionary for rules on eponym usage.

Expire: A euphemism; the preferred word is “die.”

Fewer, less: Use “fewer” when referring to “a smaller number of”; use “less” when referring to “a smaller amount.”

Intrauterine: Refers to all intrauterine members collectively, not one of them. For example, “intrauterine growth restriction” might be appropriate if there is evidence that a fetus, placenta, and amniotic fluid are all growth restricted; however, when (as is usually the case) the diagnosis is based on birth weight, “fetal growth restriction” is better. Note: “restriction” is preferred to “retardation.”
Excellent free online guide for Obstetrics & Gynecology

11 steps to structuring a science paper editors will take seriously

A seasoned editor gives advice to get your work published in an international journal

By Angel Borja, PhD  Posted on 24 June 2014
Dr. Edith Potter (1901-1993)  
Founder of Perinatal Pathology  
1st woman American Gynecologic Society  
Inducted in Ob/Gyn Hall of Fame  

Her secret power: PERSISTENCE  

“By applying the seat of my pants to the seat of my chair was the secret to my success”
I feel sorry for the guy... we tap a button, we get a pellet. He taps those buttons a million times a day. Never a pellet.