Elements of a Peer-Reviewed Publication, and Selecting A Journal

Healthy Start Conference

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LAYING THE GROUNDWORK BEFORE WRITING

Why Should You Write for Publication?

- It will help you to clarify your thinking on a topic
- You will reach a larger audience
- It is one of the main methods of communicating your work
- It carries the weight of being peer-reviewed
- Publications can be a determinant in hiring and promotions

COMMON MISTAKES BEFORE PREPARING A MANUSCRIPT

Common Mistakes Continued

- The paper doesn't address a novel question or fill a gap.
- The study design doesn't fit the hypothesis.
  - For example, hypothesizing a cause and effect relationship based on a cross-sectional survey.
- There is not sufficient power to detect an association (problem before writing manuscript).

Common Mistakes Continued

You violate the three qualities of scientific prose (Huth)

- – Accuracy
- – Clarity
- – Brevity

Common Mistakes Continued

- Not following the instructions for authors!
- Defective choice of verb tense (past tense for Results section; present tense for describing literature)
- Terms are misused
  - For example, incidence versus prevalence

Empty Words and Phrases

- A majority of (Use "Most")
- Accounted for by the fact that (Use "Because")
- Despite the fact that (Use "Despite")
- Fewer in number (Use "Fewer")
- In order to (Use "To")
- It is often the case that (Use "Often")

Tips

- Accept that writing is hard for everyone.

- Revise, revise, revise.

- Don't fall in love with your own writing. Learn to cut when necessary.

PREPARING A SCIENTIFIC ARTICLE FOR PUBLICATION

Article Outline

I. Title

II. Abstract

III. Introduction (Why are you writing?)

IV. Data & Methods (What did you do?)

V. Results (What did you find?)

VI. Discussion (What does it mean?)

VII. References

THE INTRODUCTION

The Introduction

Overall Purpose:

Convince the reader that your study will add knowledge or knowhow that is new and useful

The Introduction

Further Purposes

- Stimulate the editor's, reviewers' and reader's interest

- Provide background information which is pertinent to the study

- State the research question -- the most important part of the study

Outline of the Introduction

- Identify topic of paper / General problem statement

- More specific problem statement with literature background and highlights

- Point out where important knowledge is missing

Outline of the Introduction

- Give relevant limitations of previous studies

- Be clear that filling this gap will be useful

- Give study purpose and hypotheses

- Be clear that your approach is new and addresses limitations of previous studies.

COMMON MISTAKES IN WRITING AN INTRODUCTION

Mistakes Continued

- Not having clear, answerable aims
  - They are the backbone of the article, and provide the structure for all subsequent sections
  - Vague purpose statements
- Background information too broad
- Information too elementary (my dear Watson)
- Information too detailed
  - Don't want a comprehensive literature review
- No citations of other key studies on specific topic
- Unpublished literature, theses cited
- Unnecessary acronyms
- Results given at end of Introduction section

Vague Purpose Statements

Compare these examples:

- "This study reports our experience with two types of mosquito feeding: direct feeding and membrane feeding."

- "Our purpose was to determine seasonal infectivity rates by direct feeding among gametocyte carriers 18 years old and younger, and to compare malaria transmission-blocking activity via direct versus membrane feeding."

THE METHODS SECTION

The Methods

Overall Purposes:

- To describe how you collected, organized and analyzed the data
- Ensure that enough detail is provided to verify the findings.
- Enable replication of the study by an appropriately trained person.

Outline of the Methods

- Study setting and design
- Study sample and methods of data collection
- Institutional Review Board / ethics review details
- Outcome and independent measures
- Inclusion and exclusion criteria
- Materials and equipment (if used)
- Statistical methods

COMMON MISTAKES IN WRITING THE METHODS

Methods mistakes

- There is not enough information provided in the Methods section to assess validity.

- Insufficient detail:
  - Novel procedures
  - Subject selection
  - Randomization methods
  - Allocation concealment
  - Blinding
  - Statistical methods

THE RESULTS SECTION

Purpose of Results Section

- "To give as clear an answer to the question to be answered by the research as your data will permit"

  —Ed Huth

Overview of Results Section

- Study population characteristics
- Bivariate relationships between independent and dependent variables
- Multivariate analyses as appropriate
- Significance can be noted but not interpreted
- Primary, secondary and exploratory outcomes

COMMON MISTAKES IN WRITING THE RESULTS

Common Mistakes in Writing the Results

- Lack of focus--putting too many results in the text and not highlighting the important ones.

- Statistical significance is not described appropriately—p=.06 is not borderline significant

- Repeating results in text, tables, figures

- Data presentation doesn't follow the order of the tables and figures

Common Mistakes in Writing the Results

- Putting results in methods or discussion sections or methods or discussion in results section

- Interpreting results

- Comparing results to literature

THE DISCUSSION SECTION

The Discussion

<u>Overall Purpose</u>:

To explain the meaning of the results to the readers, and why they are important.

Writing the Discussion

- Commentary on your study
  - What did the study show?
  - What might that mean?
  - What are other possible alternative explanations for the findings?

Outline of a Discussion Section

- Summarize major findings in first paragraph
  - Statement of the results should reflect the study design, i.e. stick to 'associations' unless it's a RCT
- Secondary results
- How do results compare with prior knowledge?
- What results mean
- Limitations and strengths of the study
- Conclusions and implications

COMMON MISTAKES IN WRITING THE DISCUSSION

Common Mistakes in Writing the Discussion

- Being unrealistically precise in the interpretation
  - Ex: Applying these results to the 41,253,483 U.S. adults between ages 30 and 64, we estimate that 8,333,203.6 Americans suffer from…

- Discussing results that are self-explanatory or common knowledge
  - Ex: In our study of patients with diabetes and hypercholesterolemia, more deaths resulted from heart disease than from watching a Kim Kardashian reality show.

- Reviewing the entire literature
  - Pick the most important prior studies
  - Reference some of the other good ones

Common Mistakes in Writing the Discussion

- Overgeneralizing from a small sample or limited population to the rest of the world.

- Not keeping the results in perspective--ie, the greatest discovery since the ipod.

- Don't be overly critical of previous studies

National Center for Chronic Disease Prevention and Health Promotion

WRITING THE ABSTRACTS AND TITLES

- Preventing Chronic Disease

Writing The Abstract

- When
  - Once you have completed the manuscript
  - Before you have written the title
- Why
  - To provide a short, accurate, complete overview of the study
  - Interest readers in the whole article

Abstract Content

- Why the study is important
- What is the research question
- Who participated in the study
- What was the design and analytic methods
- What were the key findings
- What do they mean

COMMON MISTAKES IN WRITING ABSTRACTS

Common Mistakes in Writing Abstracts

- Putting in information not contained in the paper.
- Not putting in the data on the major findings.
- Not following journal guidelines for structure and length

Title Comes Last

- Purpose
  - Captures reader's attention
- Structure
  - Gives the basics of who, what, when
  - Short
  - Doesn't include a subtitle
  - Isn't too cute, glib or goofy

SELECTING A JOURNAL

Selecting a Journal

- Has the journal published papers in your subject area?
  - For example, submitting a paper on child injury to the American Journal of Obstetrics and Gynecology.
- Does the journal have predetermined criteria that would eliminate your paper?
  - The Journal of the American Medical Association did not used to accept papers from any studies with response rates below 60%.

Selecting a Journal

- Look at your references, see which peer-reviewed journals are cited the most

- Have similar articles been published in this journal?

- Check impact and/or SJR factors

- Best audience fit: who do you want to influence? Is journal affiliated with an organization?

- How long does it take to review and publish? How often do they publish?

- What is required format and what will it take for you to put it into that format?

- Acceptance rate?

Strategies to Increase Chances of Publication

- Use key papers from that journal in your list of references—likely will draw upon previous authors for reviewers

- Follow author guidelines precisely, check recently published papers in journals, query if there are inconsistencies

- Contact the editor beforehand to ask if they might be interested in the topic, and mention your results

- Have your backup journal list just in case

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