

HOW TO WRITE AN ARTICLE: HIGHLIGHTS

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Disclosures:

- My personal views and emphases
- Would make my life as an editor easier
- Certainly intended as an advertisement for CMI:
 - Send your best articles to the CMI

You won't be able to correct basic mistakes in planning when writing the article

- Write a detailed protocol. Consult with experienced researchers.
- Obtain the approval of the relevant research ethics committee.
- If you have not obtained it, be prepared to justify (based on local regulation and legislation) why you have not.

Don't copy! (even from your own articles)

Most journals are checking automatically for plagiarism online.

Reporting guidelines



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Essential resources for writing and publishing health research

Library for health research reporting **Reporting guidelines for main study types**

The Library contains a comprehensive searchable database of reporting guidelines and also links to other resources relevant to research reporting.

Randomised trials	CONSORT	Extensions	Other
Observational studies	STROBE	Extensions	Other
Systematic reviews	PRISMA	Extensions	Other
Case reports	CARE		Other
Qualitative research	SRQR	COREQ	Other
Diagnostic / prognostic studies	STARD	TRIPOD	Other
Quality improvement studies	SQUIRE		Other
Economic evaluations	CHEERS		Other
Animal pre-clinical studies	ARRIVE		Other
Study protocols	SPIRIT	PRISMA-P	Other



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Title

- Declarative: Shows the conclusion:
 - e.g., Combination treatment improves survival in infections caused by carbapenem-resistant enterobacteriaceae
- Hypothesis or question:
 - Does combination treatment improve survival in infections caused by carbapenem-resistant enterobacteriaceae?
- Descriptive: topic and then design of study:
 - Combination treatment versus one drug for infections caused by carbapenem-resistant enterobacteriaceae: a prospective, cohort study.

Title (2)

- The descriptive title is more honest for research manuscripts and we prefer it at CMI.
- Be as imaginative as you want in opinion pieces
- Check the titles in the journal you're aiming at.
- 'Bad' title features (low citation rates)
 - Long titles
 - Name of location in title

Abstract is important:

- It has its own life on the web.
- Readers will many times decide whether to read the entire article; or quote it; or examine it for inclusion in a systematic review; based only on the abstract.
- Readers will many times read only the abstract.
- Editors can and will make decisions based on the abstract only (Groves T, Abbasi K. Screening research papers by reading abstracts. *BMJ* 2004;**329**:470–1)

Abstract:

- Be sure it contains the most important parts of your study: hypothesis or question or aims; the important methods; results; implications.
- Results:
 - give always actual numbers: number of patients; numerator and denominator; mean or median and dispersion measures.
 - do not quote only p values; or only ORs or only RRs.
- Implications:
 - Discuss in short the direct implications of your study
 - Refrain from sweeping statements (especially from: further research is needed).

Introduction has 3 functions:

1. Provide a short background.
 - Avoid facts that are well known to your audience: writing on antibiotics for CMI, don't start with the discovery of penicillin.
 - But don't ignore relevant studies: in the Introduction of systematic review do mention that 5 such systematic review were published in the last 6 years,
2. Show that there was a good reason to do the study:
 - It has (more or less) biological plausibility.
 - It was not performed before in such quantities that another study is completely redundant.
 - The problem you address is important.
 - The method is appropriate.

'The levels of LDH in patients with pyelonephritis were not reported before' – is not a good reason.

'E. coli is the most common pathogen of cystitis all over the world; but this was not assessed in Laputa' – not a very good reason.

Introduction has 3 functions:

3. Introduce the hypothesis or the question of the study, usually in the last paragraph.
 - Hypothesis or the study question: I'm afraid advantage to hypothesis driven studies.
 - You can also offer in this paragraph a short overview of the methods: it can be the whole PICO; but usually only its important parts.

If you have an ***a-priori*** hypothesis don't hide it:

'We tested whether low socio-economic status is related to resistant pathogens in women with cystitis' rather than 'We looked for risk factors for resistant pathogens in women with cystitis'.


Methods

- If some (or all) of the patients were described in prior publications, be precise in describing the overlap and quoting these publications.
- ‘Prospective’ and ‘retrospective’ as descriptions are not enough.
- Components of an observational study:
 - How were the patients detected.
 - How were they recruited.
 - How were the follow up data acquired: e.g., prospective, at given points in time, according to a protocol; or from the electronic patient file.
 - How were the outcomes acquired (e.g. data on 30 day mortality).

Statistical methods:

- **Sparse data** (Sparse data bias: a problem hiding in plain sight: BMJ 2016;352:i1981)
- Most of the problems we encounter are with the description of the multivariate analysis.
- There are several checklists - the one I'm using is about logistic regression: Journal of Clinical Epidemiology 57 (2004) 1147–1152 – some points there valuable for other models as well.

Results

- Be precise about the flow of patients in your study. 
- Data should be shown in Tables or Figures.
- Text should serve to highlight important findings.
- Avoid trivial figures.
- Be honest in reporting data:
 - Always report actual numbers and not only p values or ORs or RRs.
 - Always give numerator and denominator for rates or percentages.
 - For life-table analysis, report the number of patients available at the beginning of each time interval.
 - Report on missing data and what did you do about it.
 - Distinguish between statistical and clinical significance.

Bad examples:

- Methods: We have used all clinical samples send to the routing laboratory of our hospital during the duration of the study (2 yrs).
- Results: 365 samples were analyzed.
- Methods: Pregnant mothers followed up at our (very large and very busy) clinic were offered participation (a study over 10 years).
- Results: In the 200 mother-newborn pairs...

Discussion

Use a structured discussion:

- Main findings: without repeating the results.
- Your findings in the light of what is already known:
 - If unlike previous studies, what can explain the differences? If similar, what further understanding was added by your study?
 - Review the literature but do not repeat what was said in the Introduction; and remember you're writing an article and not a review: review the literature as far as it has a bearing on your question and results.
- Limitations of your study and what bearing they have on your conclusions (if you must strengths of your study as well).
- Did your results taught us something new about mechanisms or pathophysiology?

Discussion (2)

- Implications for further research.
 - Try and be precise, to the level of advising on the design of the needed study.
- Implications for clinical practice.
 - Avoid far-fetched conclusions.

General advice

- Keep a logical line running through your article, starting with your question;
 - methods (the methods should be suitable to answer the question);
 - results: the answer to your question should be given mainly based on the main outcome;
 - implications that should be based mainly on your results, and mainly on the main outcome.
- English and style: If you are not a native English speaker, or writing your first articles, ask an experienced colleague fluent in 'article-English' to read through your piece.
- Predatory journals? Probably not.



The experienced colleague: and thank you.