

Educational workshop
Giving the best in science: from us/to us

Papers: what a reviewer of an article wants to read

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Associate Chief Editor, Clinical Microbiology and Infection

No conflicts of interests

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The first reviewer



First pass

The journal's editor
The associate editor

Editor's first review

- Formatting and clarity
- Design and methodology
- Within the journal's scope
- Novelty
 - Rationale and additive value
- Language

Presentation outline

- Title
- Methods
- Results
- Discussion
- Abstract

Title

- Interesting/ clear
- In clinical studies provide study design in title
- "Adverse" title features (low citation rates)
 - Long titles
 - Minor location in title

Titles: example I

Antibiotic treatment strategies for community-acquired pneumonia in adults.

Postma DF, van Werkhoven CH, van Elden LJ, Thijsen SF, Hoepelman AI, Kluytmans JA, Boersma WG, Compaijen CJ, van der Wall E, Prins JM, Oosterheert JJ, Bonten MJ; CAP-START Study Group.

N Engl J Med. 2015 Apr 2;372(14):1312-23

β -Lactam monotherapy vs β -lactam-macrolide combination treatment in moderately severe community-acquired pneumonia: a randomized noninferiority trial.

Garin N, Genné D, Carballo S, Chuard C, Eich G, Hugli O, Lamy O, Nendaz M, Petignat PA, Perneger T, Rutschmann O, Seravalli L, Harbarth S, Perrier A.

JAMA Intern Med. 2014 Dec;174(12):1894-901.

Titles

Beware of declarative titles

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2015 ACP Journal Club Articles

17 March 2015

Review: Perioperative β -blockers have variable effects on outcomes in cardiac and noncardiac surgery



17 March 2015

Review: β -blockers do not reduce mortality in myocardial infarction in the reperfusion era



17 March 2015

Early goal-directed therapy did not reduce mortality more than usual care in early septic shock



17 March 2015

For preventing exacerbations of COPD, withdrawal of inhaled glucocorticoids was noninferior to continuation



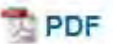
17 March 2015

Review: Systemic corticosteroids reduce treatment failure but increase hyperglycemia in COPD exacerbations



17 March 2015

Review: ≤ 7 and > 7 days of systemic corticosteroids do not differ for efficacy in COPD exacerbations



17 March 2015

Review: In diabetes with multivessel or left main CAD, PCI increases death/MI/stroke combo compared with CABG



Active verbs in clinical trials published in Medline

Year of publication	No of papers	Absolute verb	Relative verb	Nounal verb	All verbs
1970	2 033	0	0	0	0.00
1975	3 701	0	1 (0.03)	0	1 (0.03)
1980	4 251	0	3 (0.07)	5 (0.12)	8 (0.19)
1985	6 740	3 (0.04)	22 (0.33)	11 (0.16)	36 (0.53)
1990	11 983	18 (0.15)	56 (0.47)	42 (0.35)	116 (0.97)
1995	20 632	23 (0.11)	172 (0.83)	116 (0.56)	311 (1.51)
1997	20 381	26 (0.13)	225 (1.10)	125 (0.61)	376 (1.84)

Title: example II

Submitted:

Inoculation of Quadrivalent Vaccine in School-aged Children is an Effective Way to Prevent Influenza in Shanghai

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Abstract

...To understand the impact of influenza B in Shanghai... we conducted this retrospective **epidemiological study** of influenza B in the **2009-2014 seasons**. A total of 71,354 outpatients with influenza-like illness... On average, **33.45% of influenza strains were influenza B, and 40.20% of strains isolated from children were influenza B**. The incidence of influenza B was highest (12.52 per 100 people with influenza-like illness) in children ages 6-17 years and usually peaked in this age group at the early stage of an influenza B epidemic... **We concluded that influenza B has caused a substantial impact in Shanghai and that school-aged children play a key role in the transmission of influenza B. Hence, it may be beneficial to prioritize influenza vaccination for school-aged children ...**

Inappropriate declaration

Submitted:

Inoculation of Quadrivalent Vaccine in School-aged Children is an Effective Way to Prevent Influenza in Shanghai

Accepted:

Epidemiological Study of Influenza B in Shanghai during the 2009-2014 seasons: Implications for Influenza Vaccination Strategy

Background

- Short! In few words try to explain why your study is interesting, exciting, novel, unique
- Avoid general trivialities
- Do not ignore previous research
- Be real - explain why you started the study rather than write a background driven by your results

Well... refrain from trivialities

- Highly pathogenic avian influenza virus is a kind of highly infectious virus for human being. Every variation of the virus was likely to cause epidemic outbreak worldwide, such as...
- Common presenting symptom of patients with epidemic avian influenza virus infection were fever, cough, dyspnea, sore throat, myalgia, etc [1-3].
- This disease represented a serious challenge for critical care physicians and respiratory physicians worldwide.



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Beware of "no previous", "first study"

Article

- Other international studies reported additional costs per *Clostridium difficile* infection (CDI) of up to US\$ 29,000... additional length of stay of 7.8 days due to CDI (without recurrence). However, **none** of these publications included a separate analysis of CDI recurrence.

Decision letter

- ... furthermore, a recent publication addressed the cost of CDI recurrence (Dubberke et. al. Attributable inpatient costs of recurrent *Clostridium difficile* infections. *Infect Control Hosp Epidemiol.* 2014 Nov;35(11):1400-7). There are differences in cost estimation between this study and yours that should be explained.

Truthful rationale gives credibility

- Although Shanghai has the highest GDP in China, the coverage rate of influenza vaccination is low... no government reimbursement.
- Currently, a quadrivalent influenza vaccine (QIV) containing both influenza B lineages could improve protection against influenza B and reduce the burden and outcomes of seasonal influenza illness. However, adoption of this vaccine appears infeasible at present for budgetary reasons.
- The aim of this retrospective surveillance study thus was to assess the impact of influenza B...

Author's conclusions: The results arising from this surveillance study offer a strong epidemiological rationale for using QIV in Shanghai

Methods

- Structure according to reporting recommendations
 - Reviewers will look for these data
 - They are used to seeing it structured as recommended
 - They will go through the checklist and check that all items are reported

What's missing?

- In this observational study, consecutive patients with DFI from 17 centers in Mars, between 15 May 2011 and 30 May 2013 were included and all the patients were assessed by the planetary Diabetic Foot Working Group
- Data recorded in DFI form...
- The study was approved by Ethical Committee
- Statistical analysis

Reporting guidelines



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Essential resources for writing and publishing health research


Library for health research reporting

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

 [Search for reporting guidelines](#)

 [Not sure which reporting guideline to use?](#)

 [Reporting guidelines under development](#)

 [Visit the library for more resources](#)

Reporting guidelines for main study types

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



[Give a talk about research publication and reporting guidelines – slides available here](#)

CONSORT checklist: methods

Study design	Present key elements of study design early in the paper
Setting	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection
Participants	Give the eligibility criteria, and the sources and methods of selection of participants. Describe methods of follow-up
Variables	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable
Data sources/ measurement	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group
Bias	Describe any efforts to address potential sources of bias
Study size	Explain how the study size was arrived at
Quantitative variables	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why
Statistical methods	(a) Describe all statistical methods, including those used to control for confounding
	(b) Describe any methods used to examine subgroups and interactions
	(c) Explain how missing data were addressed

What's missing?

- In this observational study, consecutive patients with DFI from 17 centers in Mars, between 15 May 2011 and 30 May 2013 were included and all the patients were assessed by the planet's Diabetic Foot Working Group
- Data recorded in DFI form...
- The study was approved by Ethical Committee
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Methods

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 - Reviewers will look for these data
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- Reference prior publications of the database/ cohort if relevant

Results

- Avoid much repetition between tables and results. Numbers and lists are better provided in tables
- Do not exasperate the reader before reaching the question of your study
- Use tables efficiently
- Avoid "nice" figures that can be described in a sentence

Cochrane review: results section

- Results of the search: 55 words
- Included studies: 511 words
- Excluded studies: 113 words
- Risk of bias in included studies: 445 words

Cochrane review: risk of bias

- Allocation (selection bias): Nineteen studies described an adequate method for generating a random allocation sequence. Five studies used alternate allocation based on the order of arrival at hospital and were considered to be at high risk of selection bias (Carpenter 1964 IND; Karchmer 1970 PAK; Lindenbaum 1967a PAK; Lindenbaum 1967b PAK; Rahaman 1976 BGD). The remaining trials did not describe their methods of randomization and so are at unclear risk. Fourteen studies described an adequate method for concealing allocation and were judged to be at low risk of bias, and 20 studies did not describe allocation concealment and so are at unclear risk of bias.
- Blinding (performance bias and detection bias): Sixteen trials were double blinded, while in two trials the outcome assessor alone was blinded. The remaining 21 trials were open-labelled.
- Incomplete outcome data (attrition bias): We examined incomplete outcome data reporting for the two primary outcomes. Out of 30 trials reporting on diarrhoea duration, nine were classified as low risk, 11 as high risk and the remainder were classified as unclear risk of incomplete outcome because the number of randomized patients was not explicitly stated. Out of 29 trials reporting on stool volume, 13 were low risk, eight were high risk and the remainder were unclear.

Tedious, tedious, tedious...

- Selective reporting (reporting bias): Study protocols were not available. The primary outcome was not defined in the methods section in eight (20.5%) of the publications. In most publications (26 out of 39, 66.7%), the primary outcomes were defined without specifying the time point for assessment, while the primary outcomes were fully defined in five publications. When primary outcomes were defined, 13 studies defined a single primary outcome, six studies defined more than one outcome and 12 studies included all outcomes as 'primary'. Primary and secondary outcomes defined in the methods were reported in the results quantitatively in all publications. The outcome matrix showed that out of the 39 included studies, the number of studies reporting review-defined outcomes were as follows:
 - diarrhoea duration: 29
 - volume of diarrhoea: 29
 - deaths: 14
 - duration of pathogen excretion: 16
 - microbiological failure: 31
 - clinical failure: 18
 - volume of rehydration fluids (IV or orally): 24.

Cochrane review: results section

- Results of the search: 55 words
- Included studies: 511 words
- Excluded studies: 113 words
- Risk of bias in included studies: 445 words
- Effects of interventions...

Variable	Number	Percent
Age >65 years	XX	XX%
Comorbid diseases	XX	XX%
Diabetes mellitus	XX	XX%
Chronic renal failure	XX	XX%
Previous surgery	XX	XX%
Malignant diseases	XX	XX%
Skin disorder	XX	XX%
Immunosuppressive therapy in last 3 months *	XX	XX%
Burns	XX	XX%
Chronic obstructive pulmonary disease	XX	XX%
Congestive heart failure	XX	XX%
Cerebrovascular event	XX	XX%
Clinical findings	XX	XX%
Fever ($\geq 38^{\circ}\text{C}$)	XX	XX%
Tachycardia (> 100 beats/min)	XX	XX%
Tachypnea (> 20 breaths/min)	XX	XX%
Hypotension (arterial tension < 90 mmHg)	XX	XX%
Altered consciousness **	XX	XX%
Coexistent factors	XX	XX%
Peripheral venous catheter	XX	XX%
Central venous catheter	XX	XX%
Intensive care unit admission	XX	XX%
Previous antibiotic use ***	XX	XX%

Variable	Alive	Dead	P-value
Age >65 years	XX (XX%)	XX (XX%)	XX
Comorbid diseases	XX (XX%)	XX (XX%)	XX
Diabetes mellitus	XX (XX%)	XX (XX%)	XX
Chronic renal failure	XX (XX%)	XX (XX%)	XX
Previous surgery	XX (XX%)	XX (XX%)	XX
Malignant diseases	XX (XX%)	XX (XX%)	XX
Skin disorder	XX (XX%)	XX (XX%)	XX
Immunosuppressive therapy in last 3 months *	XX (XX%)	XX (XX%)	XX
Burns	XX (XX%)	XX (XX%)	XX
Chronic obstructive pulmonary disease	XX (XX%)	XX (XX%)	XX
Congestive heart failure	XX (XX%)	XX (XX%)	XX
Cerebrovascular event	XX (XX%)	XX (XX%)	XX
Clinical findings	XX (XX%)	XX (XX%)	XX
Fever ($\geq 38^{\circ}\text{C}$)	XX (XX%)	XX (XX%)	XX
Tachycardia (> 100 beats/min)	XX (XX%)	XX (XX%)	XX
Tachypnea (> 20 breaths/min)	XX (XX%)	XX (XX%)	XX
Hypotension (arterial tension < 90 mmHg)	XX (XX%)	XX (XX%)	XX
Altered consciousness **	XX (XX%)	XX (XX%)	XX
Coexistent factors	XX (XX%)	XX (XX%)	XX
Peripheral venous catheter	XX (XX%)	XX (XX%)	XX
Central venous catheter	XX (XX%)	XX (XX%)	XX
Intensive care unit admission	XX (XX%)	XX (XX%)	XX
Previous antibiotic use ***	XX (XX%)	XX (XX%)	XX

Nice, but... journal space



A word on study quality

Rejection letter

- While the study is well conducted, prospective, and definitions are valid, it is still too early to use probably and more patients are needed for meaningful analyses. A sample of about 250 patients with 39 outcome events is insufficient to assess many risk factors, especially the importance of appropriate empirical antibiotic treatment...

Risk factor analysis in ID

- Systematic review of observational studies examining the association between inappropriate empirical antibiotic treatment and mortality
- 45 studies conducted a multivariable analysis
- Number of factors included in the analysis: median 9 (range 4-20)
- Rule of 10:1 outcomes/ variable: minimum of 90 outcome events

Paul et al. Systematic review and meta-analysis of the efficacy of appropriate empiric antibiotic therapy for sepsis. *Antimicrob Agents Chemother.* 2010

Discussion

- Structured discussions easier to read
 - BMJ
 - Cochrane style for systematic reviews
- Limitations paragraph: complete transparency better on all accounts
- Implications for practice: important without exaggerating study's implications

Discussion: example

Peer reviewer

- The authors should state what the meta-analysis adds to our current understanding of the value of vancomycin levels monitoring in clinical practice.
- They do not discuss how their findings may change or evolve research in this major issue.
- The discussion is rumbling and irrelevant to the primary outcome.

Structured discussion: original article

Suggested structure for discussion of scientific papers

- Statement of principal findings
- Strengths and weaknesses of the study
- Strengths and weaknesses in relation to other studies, discussing particularly any differences in results
- Meaning of the study: possible mechanisms and implications for clinicians or policymakers
- Unanswered questions and future research

Structured discussion: systematic review

- Summary of main results
- Overall completeness and applicability of evidence
- Quality of the evidence
- Potential biases in the review process
- Agreements and disagreements with other studies or reviews
- Implications for practice
- Implications for research

Abstract

- Last but very much not least
- Follow journal's guidelines on structure
- Detail methods and results, not background and conclusions
- Focus on main results and provide absolute numbers
- Let an independent person read and criticize



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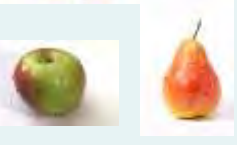









TOO MUCH results... focus on objective

- **Results:** 455 DFI patients were included. Median age was 62(29-90) years, 310(68%) were male, 287(63%) had complicated skin-soft tissue infection, and 121(27%) had osteomyelitis. Seventy five percent of the patients were hospitalized, 52% of the patients used antibiotics within the last month. In total, 208 microorganisms have been isolated, 92(44.2%) were Gram positive and 114(54.8%) were Gram negative microorganisms. Most commonly isolated Gram(-) was Pseudomonas; second most common was E.coli, isolated in 30 patients (26.3%) with ESBL positivity in 33%. The rate of methicillin resistance among S. aureus was 22.9%, MR-CNS was isolated in 18 patients...

Manuscript organization

The X4 no list

- No methods in background
- No results in methods
- No methods in results
- No results in discussion
- No discussion in results

Before	Strobe (http://www.strobe-statement.org/)	After
	Methods	
	Study design	
	Setting: setting, locations, dates of recruitment, exposure, follow-up and data collection	
	Participants: eligibility criteria, sources and methods of selection, methods of follow-up	
	Variables: define all outcomes, exposures, predictors, potential confounders, and effect modifiers	
	Data sources: sources of data and details of methods of assessment	
	Bias	
	Study size	
	Quantitative variables: groupings, dichotomization	
	Statistical methods: controlling for confounding, subgroups, missing data, losses to follow-up	
	Results	
	Participants: potentially eligible, examined, confirmed eligible, included, completing follow-up, and analysed	

Finally...

The submission process

Considerations in "Select reviewers"

- Do not invite your colleagues
- Choosing from the reference list is advantageous
- A reviewer knowledgeable in the topic or methodology of your study
- But not the top expert in the field

Thank you

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