
Why we need transparent reporting of health research

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Research and publication



- **Medical research should advance scientific knowledge and – directly or indirectly – lead to improvements in treatment or prevention of disease**
- **A research report is the only tangible evidence that the study was done**
 - If research is not published it might as well not have been done



Good reporting is an essential component of good research



“Good scientific practice embraces all the procedures and practices that are necessary for planning, conducting and reporting research and scholarship within a framework of scientific integrity.”

[European Science Foundation Policy Briefing. December 2000]



Importance of transparent reporting of research



- **Scientific manuscripts should present sufficient data so that the reader can fully evaluate the information and reach his or her own conclusions about the results**
 - Relevant?
 - Reliable?
 - Reproducible?



Readers of a research article



- **Clinicians might read it to learn how to treat their patients better**
 - “Editors, reviewers and authors are often tempted to pander to this group, by sexing up the results with unjustified clinical messages – sometimes augmented by an even more unbalanced press release.”
[Buckley *Emerg Med Australas* 2005]
- **Researchers might read it to help plan a similar study or as part of a systematic review**
 - Need a clear understanding of exactly what was done



We need research we can rely on



- **Assessment of reliability of published articles is a necessary condition for the scientific process**

[Ziman. *Reliable Knowledge*, 1978]

"... clinical research involving human participants can only be justified ethically when such experiments are done to produce generalizable knowledge."

[Korn & Ehringhaus. *PLoS Clin Trials* 2006]

- **Authors (and journals) have an obligation to ensure that research is reported adequately**



Reporting research is not new concern, but it is a relatively neglected one



“... incompleteness of evidence is not merely a failure to satisfy a few highly critical readers. It not infrequently makes the data that are presented of little or no value.”

[Mainland. *The treatment of clinical and laboratory data*, 1938]



What do we mean by poor reporting?



- **Key information is missing, incomplete or ambiguous**
 - methods and findings
- **Misrepresentation of the study**
- **Misleading interpretation**

Of particular concern

- **Non-publication of whole studies**
- **Selective reporting of methods or findings**



Good reporting: completeness and clarity



Transparent reporting of:

- **All important aspects of how the study was done**
 - Allow repetition (in principle) if desired
 - “Describe statistical methods with enough detail to enable a knowledgeable reader with access to the original data to verify the reported results.”

[International Committee of Medical Journal Editors]

- **Key study findings related to objectives**
 - Reporting of results should not mislead



Evidence of poor reporting



- **There is considerable evidence that many published articles do not contain the necessary information**
 - We cannot tell exactly how the research was done



Randomised trials



519 Randomised trials published in December 2000

Failure to report key aspects of trial conduct:

73% Sample size calculation

55% Defined primary outcome(s)

60% Whether blinded

79% Method of random sequence generation

82% Method of allocation concealment

[Chan & Altman *Lancet* 2005]



Other types of study



- **There is most evidence for randomised trials**
 - >37 reviews of reporting of trials since 2002
- **Similar concerns apply to all types of research**
- **“The biggest problem was the quality of reporting, which did not allow us to judge the important methodological items ...”**
- **“Data reporting was poor. 15 trials met the inclusion criteria for this review but only 4 could be included as data were impossible to use in the other 11.”**

(Reviews on *Cochrane Library*, accessed on 18 Sept 07)



Selective reporting



- In addition, there is accumulating evidence of two major threats to the medical literature
- **Study publication bias** – studies with less interesting findings are less likely to be published
- **Outcome reporting bias** – results included within published reports are selected to favour those with statistically significant results



Impact of poor reporting

- **Inevitable adverse consequences for**
 - Other researchers
 - Clinicians
 - Patients

- **Assessment of reliability of published articles is seriously impeded**
 - Methodological weaknesses may be hidden

- **Cumulative published evidence is biased**
 - “... the literature is probably cluttered with false-positive studies that would not have been submitted or published if the results had come out differently.” [Richard Simon, 2001]

- **Most published studies are not reproducible**



Why is the reporting of research so poor?



- **Poor reporting indicates a collective failure of authors, peer reviewers, and editors**
... on a massive scale
- **Researchers (authors) may not know what information to include in a report of research**
- **Editors and peer reviewers may not know what information should be included**

What help can be given to authors, editors, and reviewers?



Why we need transparent reporting of health research



- **Research should contribute positively to scientific knowledge, to benefit researchers, clinicians, and patients**
 - Research is of little value (and may be harmful) unless its true nature is clear
 - It should lessen confusion not create more confusion
- **Moral responsibility to research participants, funders, society**



Poor-Quality Medical Research

What Can Journals Do? [JAMA 2002]

Douglas G. Altman, DSc

“Journals can help to improve the literature by requiring the full and transparent reporting of research...”

“Editors should continue to be involved in the development of reporting recommendations and explicitly require authors to follow these.”



- **“Reporting is not just about telling people what happened in the past. It is a tool for changing the future. Certainly, ‘good’ reporting must be accurate and complete. But this is not sufficient to make a difference. Crucial is the value placed on reporting by the organisation itself.”**

Simon Zadek. The impact of public reporting. Oct 2002

www.ethicalcorp.com/content.asp?ContentID=223



**Good reporting is not an optional extra:
it is an essential component of
good research**



