

# Chiropractic Update



## Update 67

### DOES THE MEDICAL LITERATURE REPRESENT A SELECTIVE AND BIASED SUBSET OF STUDIES?

Outcome reporting bias has been defined as the selective reporting of some results but not others in trial publications. Direct evidence of such bias has recently been shown in two cohort studies that compared trial publications with the original protocols (1,2). However, it is unknown whether selective outcome reporting can be identified when protocols are unavailable.

The objective of a recent retrospective review and follow up survey (3) was to examine the extent and nature of outcome reporting bias in a broad cohort of published randomised trials. Therefore, all journal articles of randomised trials indexed in PubMed whose primary publication appeared in December 2000 were included in the study.

The authors considered an outcome to be unreported if it was described in the methods section but not the results section of any publication. Furthermore, using a pre-piloted questionnaire, they asked the contact authors to list any outcomes that were not reported in the published papers.

The main outcomes that the authors measured were - prevalence of incompletely reported outcomes per trial; reasons for not reporting outcomes; association between completeness of reporting and statistical significance.

In total the authors were able to identify 519 trials with 553 publications and 10,557 outcomes. Survey responders (response rate 69%) provided information on unreported outcomes but were often unreliable.

On average, over 20% of the outcomes measured in a parallel group trial were incompletely reported. Within a trial, such outcomes had a higher odds of being statistically non-significant compared with fully reported outcomes {odds ratio 2.0 (95% confidence interval 1.6 to 2.7) for efficacy outcomes; 1.9 (1.1 to 3.5) for harm outcomes}.

The most commonly reported reasons for omitting efficacy outcomes included space constraints, lack of clinical importance, and lack of statistical significance.

The authors conclude,

“Incomplete reporting of outcomes within published articles of randomised trials is common and is associated with statistical non-significance. The medical literature therefore represents a selective and biased subset of study outcomes, and trial protocols should be made publicly available.”

### References:

1. Chan AW, Hróbjartsson A, Haahr MT, Gøtzsche PC, Altman DG. Empirical evidence for selective reporting of outcomes in randomized trials: comparison of protocols to published articles. *JAMA* 2004; 291:2457-65.
2. Chan AW, Krolezka-Jerinc K, Schmid I, Altman DG. Outcome reporting bias in randomized trials funded by the Canadian Institutes of Health Research. *CMAJ* 2004; 171:735-40.
3. Chan A, Altman DG. Identifying outcome reporting bias in randomised trials on PubMed: review of publications and survey of authors. *BMJ*, doi:10.1136/bmj.38356.424606.8F (published 28 January 2005)  
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