Confidence in statistical analysis

Editor—Asai is to be congratulated for elegantly demonstrating the superiority of confidence intervals over significance testing to meaningfully convey the results of randomized controlled trials. The recommendations made in his editorial will do much to improve trial reporting.

It may be useful to draw readers’ attention to the CONSORT statement—a set of guidelines for reporting randomized controlled trials that has been adopted by a number of medical journals. This too contains useful suggestions regarding that statistical information which it is appropriate to report to enable readers to independently evaluate a study.

O. Sanehi
Cheshire, UK

Editor—I fully agree with Dr Sanehi that the Consolidated Standards of Reporting Trials (CONSORT) statement is a set of variable guidelines for reporting randomized controlled trials.

In the era of evidence-based medicine, accurate analysis of randomized controlled trials is mandatory. This can be achieved only when these reports provide readers with enough valid and meaningful information concerning the design, conduct, and analysis of trials. In 1993, two independent groups made proposals for effective reporting, and subsequently, these two groups (with others) held a joint meeting in 1995 and published the CONSORT statement in 1996. In 1999, the CONSORT group met again with the primary objective of revising the original statement, and a revised CONSORT statement was published in 2001. The revised statement consists of a checklist and a flow diagram: the checklist consists of 22 essential items that should be included in reports of randomized controlled trials, whereas the flow diagram provides information about the progress of patients throughout two-group parallel-design randomized controlled trials. Articles based on the CONSORT statement provide readers with a consistent approach to finding relevant information from one report to another.

In the statement, several items are on statistical analysis, such as sample size, randomization, blinding and statistical analysis. Item 17 (outcomes and estimation) states that "[f]or each primary and secondary outcome, a summary of results for each group and the estimate effect size and its precision (e.g. 95% confidence interval) is required." I encouraged authors and readers of the British Journal of Anaesthesia to gain confidence in confidence intervals in addition to hypothesis tests in reporting and analysing studies. Application of appropriate statistical analysis and the CONSORT statement will lead to more comprehensive and complete reporting of randomized controlled trials.

T. Asai
Osaka, Japan

1 Asai T. Confidence in statistical analysis. Br J Anaesth 2002; 89: 807–10

DOI: 10.1093/bja/aeg553