CORRESPONDENCE

Systematic Literature Reviews and Meta-Analyses —Part 6 of a Series on Evaluation of Scientific Publications

by Dr. med. Meike Ressing, Prof. Dr. rer. nat. Maria Blettner,
PD Dr. rer. nat. et med. habil. Stefanie J. Klug in volume 27/2009

Who Assesses the Quality of Systematic Reviews?

The authors have provided a checklist to assess the quality of systematic reviews. In our opinion, the importance of the question whether the relevant data have been correctly extracted from the original publications cannot be emphasized strongly enough. We have studied the results of different meta-analyses of stapled hemorrhoidopexy versus conventional hemorrhoidectomy. On first impressions, these studies would meet the criteria set out by Ressing et al. However, the careful selection of raw data from the publications is of the utmost importance. This becomes clear from the articles by Shao (1) and Laughlan (2): they include a publication in which a completely different surgical technique was used (linear stapling rather than circular stapling). Shao's article (1) included a study that compared the stapling procedure with a non-surgical procedure. The articles of Shao (1), Laughlan (2), and Lan (3) included duplications: the authors had overlooked the fact that the studies in question were follow-up studies of the same groups of patients. One might argue that the authors did not have any detailed knowledge of the surgical technique or that they did not have access to the original publication.

Study protocols, a priori hypotheses, and the description of the literature search are essential, but reviewers would have to perform the entire search and study all the literature again in order to be able to assess whether the included studies should have been included or not.

So the following question arises: who assesses the quality of the systematic review and the meta-analysis, not only on the basis of the checklist used by Ressing et al, but with a view to the quality of the included studies?

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In Reply:

Correct extraction of the relevant data from the original publications in the summaries is of the utmost importance. Mistakes or a lack of careful scrutiny can crucially skew the results. As described in our checklist, written inclusion and exclusion criteria that are defined a priori in the study protocol have to be taken into consideration in this regard (1). This means for example that the surgical techniques that were included in the summary have to be defined with precision. Multiple publications of the same study group are not a rare event, and the exclusion criteria have to be set in such a way as to exclude such publications. What is also useful is quality assurance of the included studies by means of quality criteria that are defined a priori (2) or by means of a quality score (3). This enables the authors of the summary to assess the included data more thoroughly, and it enables reviewers and readers to do the same.

As with all original articles, the team of researchers is duty bound to ensure careful and correct data extraction. Ideally, for a summary, the literature search, data extraction, and data evaluation should be done in parallel by two independent persons. If this is not possible then, at least a second person should check everything carefully and verify what was done. Another option for checking the quality of the summary is to conduct an independent audit of the research team.

Reviewers of scientific journals cannot replicate the entire work done by the researchers, but by checking manuscripts carefully they can detect errors and weaknesses while gaining an impression of how carefully the work has actually been done. Finally, educated readers, whom we have provided with a checklist and an understanding of the problems, will be able to judge the quality of a summary.

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Conflict of interest statement

The authors of all contributions declare that no conflict of interest exists according to the guidelines of the International Committee of Medical Journal Editors.