Reviewer's report

Title: Evaluating heterogeneity in cumulative meta-analyses

Version: 2 Date: 24 May 2004

Reviewer: Bahi Takkouche

Reviewer's report:

General

The idea of describing heterogeneity in the context of cumulative meta-analysis is interesting. However, I do not think that there is substantial new knowledge in what has been proposed. It is just an exploration of heterogeneity through publication time. It is not more or less important than exploring heterogeneity by study design (i.e. checking whether heterogeneity is different between case-control studies and cohort studies for instance). Such a check should be (and generally is) routinely performed in any good meta-analysis. Examples are too numerous and repetitive. One example (and not five) would have been enough.

Heterogeneity depends (among others) on the number of studies included in the meta-analysis. Since the number of studies increases through time in a cumulative meta-analysis, it should be natural that heterogeneity measures change just because of the increasing number of studies. This should be mentioned somewhere.

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

Higgins et al. (2002) proposed the derivation of the confidence intervals of "the proportion of variability among studies relative to the total variability" (that they call I squared), but the credit of the point estimate of the statistic should go to Takkouche et al. (see Takkouche B, Cadarso-Suarez C, Spiegelman D. Evaluation of old and new tests of heterogeneity in epidemiologic meta-analysis. Am J Epidemiol. 1999 Jul 15;150(2):206-15.).

I believe that this article would be more attractive if it were written as a short report or a letter to the editor with one (or two) figures corresponding to one unique example.

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

Authors should avoid the use of standard epidemiological terms for other purposes: e.g.: "rate of release of information" (rate is reserved for incidence in epidemiology).

Discretionary Revisions (which the author can choose to ignore)

What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions
Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: No

Declaration of competing interests:
None, except that I am the first author of the article that I mention in the review.