Reviewer's report

Title: Evaluation of QUADAS, a tool for the quality assessment of diagnostic accuracy studies

Version: 1 Date: 30 October 2005

Reviewer: Shriprakash Kalantri

Reviewer's report:

General
This paper addresses an important issue in systematic reviewing of studies of diagnostic accuracy—the validity of QUADAS, an evidence based tool for quality assessment of studies of diagnostic accuracy. Three raters with varied level of experience independently assessed the quality of 30 diagnostic studies; the agreement between the three authors was assessed by estimating kappa statistic, a measure of chance corrected agreement. Second, the authors assessed the proportion of agreement between each reviewer and the final consensus rating. Third, the authors asked 20 researchers who had used QUADAS to assess the quality of diagnostic studies to complete a short structured questionnaire to know if QUADAS was easy to use and was clear enough to be useful to judge quality of diagnostic studies. The authors report that the tool is simple and quick to complete (most reviewers could do so in less than 30 minutes). Overall, the paper is well written and the study objective has been well defined.

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

1. The authors quantified agreement between the three physicians using the kappa (?) statistic, a measure of agreement corrected for chance. A ? value of 0 indicates that the observed agreement is the same as that expected by chance. A ? value of 1 indicates perfect agreement. The authors should use Altman’s guidelines for interpreting the ? statistic: <0.2, poor agreement; 0.21–0.4, fair agreement; 0.41–0.6, moderate agreement; 0.61–0.8, good agreement and 0.81–1.0, excellent agreement.
2. The authors should also provide 95% confidence intervals to let readers judge the precision of the point estimates.
3. Table 1 shows that of the 13 items evaluated, five items (partial and differential verification bias, clinical review bias, uninterpretable test results, and withdrawals) generated kappa statistics that indicated only fair agreement. Similarly, there was moderate agreement on three items: selection criteria, index test execution and test review bias. Although authors have explained why uninterpretable test results and withdrawals are problem items, they have not done so for the other items with “not so good” kappa values. These points need to be discussed in greater details.

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

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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 of importance in its field

Quality of written English: Acceptable

Statistical review: No