Author's response to reviews

Title: The diagnostic accuracy of anti-CCP antibody in rheumatoid arthritis: Impact of reporting quality on pooled diagnostic estimates

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Version: 2 Date: 23 September 2011

Author's response to reviews: see over
Reviewer: Jolanda Luime

Reviewer's report:
Although a huge amount of work has gone into this paper, it is not clear to me what you want to address what is not already known. Both Nishimura and Whiting did a great job to summarize the literature on the diagnostic value of RF and Anti-CCP. The QUADAS is an excellent tool to assess the methodological quality by, so I am not sure what you want to add by discussing the use of STARD. If you want compare the study description pre and post introduction of STARD, I would suggest to rewrite the paper in a different way like done before by authors in different fields. STARD, CONSORT, STROBE and EQUATOR are still not commonly used in the field of rheumatology. So sending this message out into the field may not only wake up researchers but also editors of important journals. But still the paper in it current make up would not bring this message across.

Reply:
We made an effort to improve the manuscript so that the objective of the study is clear. However, we would not like to restrict the manuscript just in the evaluation of the reporting quality of diagnostic studies according to the STARD statement. We believe that is also interesting to explore the impact of reporting quality on the estimates of diagnostic accuracy.

The purpose our study is now two-fold: i) to determine the reporting quality of anti-CCP RA diagnostic studies and ii) to investigate whether quality of reporting is associated with the effect size of diagnostic metrics (which may lead to biased estimates due to bad reporting quality).

In the Revised version of the paper we give emphasis to the quality of reporting than to the data synthesis. Therefore, all sections were modified: Title, Abstract, Introduction, Methods and Results. The analysis is now focused only on the sensitivity and specificity, we removed statements regarding synthesis’ results, we have omitted the separate analysis for healthy and diseased controls to avoid confusion, we have removed the overall HSROC analysis, we moved the description of the study characteristics in a supplementary table, we explain the significance of the findings (e.g. in Discussion, the following reading was added: “However, the meta-analysis showed an effect for specific STARD items. Studies not reporting sufficiently the methods used in calculating the measures of diagnostic accuracy (item 1), may have overestimated the sensitivity. In addition, the reporting of demographic and clinical characteristics/features of the study population (items 13 and 16) has affected the effect size of specificity, i.e. they have overestimated it, indicating also a spectrum bias [19].)

Of course, Nishimura and Whiting published important papers in the field but I believe that our study may also contribute since the reporting quality of diagnostic studies is not explored yet.
However, if the Reviewer insists on removing the synthesis part from the paper, we are willing to do this since we would like to salvage the paper.

Finally, the manuscript was edited extensively.

**Reviewer: Mittermayer Santiago**

**Reviewer's report:**
There are some spelling mistakes.

We thank the Reviewer for his positive assessment. The spelling mistakes were corrected.