Author's response to reviews

Title: Reporting and Methodologic Quality of Cochrane Neonatal Review Group Systematic Reviews

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Author's response to reviews: see over
Dear Editor

We would like to thank you for all the thoughtful and constructive comments we have received with regard to our submitted article.

Please find attached a revised manuscript and the details of the corrections made in response to reviewers comments.
Changes made in response to Reviewer 1 comments:

Page 7-9: Your results section is very descriptive and includes few quantitative data. You should also emphasize main findings quantitatively in the results section (e.g. that only 26% of the systematic reviews avoided bias in the selection of studies (item 4 of the OQAQ) is an important finding).

**Important quantitative data were added to the results section.**

Page 11 para 1 line 1-7: Too long a sentence. You write that “..however since the editors in the Cochrane library do not employ the statement as the back bone to guide their methodology, we could not reliably assume a causal relationship…”. First of all I'm not sure who the "editors in the Cochrane library" are. The Cochrane library is a database. I assume you mean the editors of the CNRG? Furthermore would you have assumed a causal relationship if the editors had employed the statement? This is similar to a before-and-after study and is prone to many types of bias. The association could be confounded by a time trend because the methodology of research in general improves by time. Also since many reviewers undertake more reviews the improvement over time can simply be the result of gains in methodological experience over time. You should therefore be more conservative in the interpretation of this finding.

**Page 11, para 1: the statement has been modified with a more conservative approach as advised by the reviewer**

Page 1 para 2 line 5-6: Last sentence in methods can be skipped. You should write something about the pre-/post-QUOROM comparison. This also goes for the results section.

**Page 1, methods sections: the last sentence was deleted and another sentence regarding the pre and post QUOROM statement comparison was added**

Page 1 para 3 line 2-7: You start by stating that the reviews had good quality based on the OQAQ score (i.e. methodological quality), but then you go on to mention deficits that are related to the QUOROM assessment (i.e. reporting quality). You should make this distinction more clear.

**The distinction was made more clear.**

Page 2 para 1 line 3-4: Check your references. You use reference 1 & 2 for the evidence that a physician needs to read 17-20 articles a day to keep up with data. But ref. 2 only states this number and uses ref. 1 as a reference, and ref. 1 doesn’t mention these number at all. I believe you should quote the Haynes paper (Haynes RB. Where's the meat in clinical journals? ACP Journal Club 1993;119:A23-4.), as this is the original source of the much quoted estimate.

**Reference 2 was deleted and the Haynes paper (ACP journal 1993) was added.**

Page 2 para 2 line 5: You state that there are 50 Cochrane Groups, but currently there are 51. It is true that only 50 groups are related to therapeutic/preventive
interventions in health care, as the methods group does methodological reviews, but then you should state this. The way the sentence is constructed gives the impression that all groups are dedicated to improving outcomes in newborn infants.

Page 2, para 2: the number was changed to 51 as advised and the statement was slightly modified for clarity.

Page 3 para 2 line 14: Reference 9 is not properly cited. You should cite the handbook as mentioned in it. And it would seem more appropriate to cite the most recent version 5.0.0. (Higgins JPT, Green S (editors). Cochrane Handbook for Systematic Reviews of Interventions Version 5.0.0 [updated February 2008]. The Cochrane Collaboration, 2008. Available from www.cochrane-handbook.org/). Furthermore, you should state which day you accessed the quoted URL’s. This also goes for reference 10 (access date and full name of organisation).

Reference 9 cited correctly as advised and reference 10 was deleted.

Page 4 para 1 line 4: It is not clear how the number 61 for included reviews was chosen, was it based on any sample size calculations or arbitrarily chosen? Second 61/210 is 29% not 30%.

Page 4, para 1: 30% was changed to one third. The word arbitrarily was added to line 4.

Page 4 para 1 line 6: You should delete the whole sentence “Stratification based on…..” and combine it with the similar sentence under data extraction (page 5 para 2 line 8-10).

Page 4 para 1: the sentence was deleted as advised and combined with the other sentence in page 5 para 2.

Page 4 para 1 line 7-8: You write “however we found that most reviews published prior to QUOROM statement were updated at a later stage”. I assume you only included the most recent version of reviews in your sample or did you also include older versions? The sentence is not clear enough to assess what was actually done.

Page 4, para 1: we added the following sentence: “we assessed the most recent version of the review” and added at the end of para 2 in page 5, as advised by editor.

Page 4 para 2 line 2-5 AND Page 4 para 3 line 1. You indirectly and directly describe the QUOROM statement as a quality assessment instrument/tool. While it is true that the QUOROM statement includes a checklist, this checklist is meant for assisting authors with reporting their results properly and it is not a checklist for critical appraisal of reports of meta-analysis or for judging their quality or risk of bias. This distinction is important.

Page 4, para 2: statement with regard to the QUOROM was modified to represent its original purpose.
You write “one third of included reviews scored 3-4”. Based on the data in Fig. 1 my calculation is \((12 + 13)/61 = 41\%\).

**Page 10, para 3: the statement was changed to be more specific to read “more than one third (41\%)”**

Page 11 para 2 line 1-7: As you state below the assessment of item 10 is influenced by the subjectivity of the assessors. I would therefore be very careful about the comparison of average scores between studies (i.e. external validity). Second you conclude “...which reinforces the notion that Cochrane reviews in general appear to have greater methodological rigor...”. But since you had no comparison group in your study, this conclusion is unwarranted. In my opinion, the only conclusion you can draw from this study is “...that Cochrane reviews in general appear to be of high methodological quality”.

**Page 11, para 2: the statement was modified as advised.**

Page 12 para 2 line 1: You should state if the two reviews KA authored were included in the sample.

**Page 12, para 2: this statement was added ‘These two reviews were not included in the chosen study sample’**.

Page 21 Figure 2: You describe Fig. 1 as “Distribution of total OQAQ scores of CNRG systematic reviews” and Fig. 2 as “Distribution of overall OQAQ scores across all included reviews”. I assume that total and overall score is the same and that all included reviews are CNRG reviews. So in my opinion you’re displaying the same information in two ways graphically. Since you don’t state the references of the individual systematic reviews (which you must do, at least on the journal's web site) there’s no reason for the inclusion of Fig. 2, because we can’t identify the individual studies anyway. As Fig. 2 contains no new information compared to Fig. 1, I would prefer the latter as it illustrates the distribution better. You could stratify the columns in Fig. 1 by colours to illustrate the difference between pre- and post-QUOROM review scores. In addition based on Fig. 2 my calculations are score 3 (12 reviews), 4 (13 reviews), 5 (28 reviews) and 6 (8 reviews). This gives 20\%, 21\%, 46\% and 13\%, respectively. This does not seem to be the same in Fig. 1 where score 3 seems to occur in less than 20\% and score 4 20\%, but this is maybe an error in the visual display of Excel?

We have chosen graph 2 since two graphs included display similar results. I agree that the discrepancy noted in the percentages was a visual error. Figure 2 was deleted.

Page 1 para 1 line 1-3: While it’s undoubtedly true that the CNRG has achieved a lot despite limited resources it doesn’t seem to fit in the background description of the abstract. A more general sentence about that the CNRG aims to produce Cochrane Reviews of high quality to assist clinicians in evidence-based decision making would be more appropriate.
Page 1, para 1: the first statement was slightly modified from the original.

Page 3 para 2 line 1-4: Give reference to this statement (e.g. reference 11 and 20 and/or

Page 3, para 2: ref 11 was added to the first statement.
The previously numbered reference 16 (a duplicate reference) was deleted.

Page 4 para 2 line 4: In addition to reference 14, which is about the validation of the OQAQ, you could consider also citing ref 17. Furthermore reference 14 and 16 are identical so 16 should be removed.

Page 4, para 2, ref 12 replaced by 15.

Page 5 para 1 line 1: You write statistical pooling, I would recommend using data analysis, as item 8 in OQAQ also can be used in systematic reviews where data are too heterogeneous to be pooled in a meta-analysis.

Page 5: statistical pooling changed to data analysis

Page 6 para 1 line 7-8: You should state how you did the calculations for the two sample t-test (by hand or using statistical software).

Page 6, para 1: the statistical software name was added.

Page 7 para 4 line 3: You write “…the Cochrane Register of Randomized Controlled Trials (CCRCT)”. First many clinicians are only familiar with the Cochrane Library where the database is accessible through. So you should instead write “The Cochrane Central Register of Controlled Trials (CENTRAL) in the Cochrane Library”. Secondly you should use the more common abbreviation CENTRAL to refer to it in Table 2.

Page 7: the abbreviation of CENTRAL was changed as advised

Page 8 para 3 line 1: Consider changing “duplicate selection” to something like “two reviewers” as this makes it more clear for readers not familiar with the process of doing systematic reviews.

Page 8: two reviewer selection replaced duplicate.

Page 13-15: You should change references to journal style.

All references have been changed manually to correspond to the journal style
Changes made in response to Reviewer 2 comments:

Clearly, as an editor of the Cochrane Neonatal Group, this assessment is of interest to me. Some of the criticisms are inherent to recommendations made by the editorial group. It would be interesting if the reviewers pulled the specific editorial suggestions from the Cochrane Neonatal Review Group editors (available on our website) and noted whether the deficiencies were inherent to our recommendations (as they well may be) or simply a variation amongst authors that the editors did not address. Certain issues that the authors criticize are obviously based on policies that the Neonatal Review Group has articulated that are different from those used by other groups or the expectations of other experts in the field of systematic reviews. For example, the Cochrane Neonatal Review Group does not recommend a random effects model in its analysis. The fixed effects model is used in all cases. It is the belief of the Cochrane Neonatal Review Group editors that heterogeneity is mostly an a priori clinical decision (as to whether or not the trials are truly groupable based on patient population and intervention). Statistical heterogeneity, if it exists, should be noted. If statistical heterogeneity is present, but not noted in the review, this is a valid and important criticism of the Cochrane reviews.

After reviewing the CNRG recommendations, we do agree with Dr Soll comments that some of our noted deficiencies were inherent from the recommendations of the editorial group. For instance, the issue of using a fixed effect model was discussed (personally) with prof Jack Sinclair. The CNRG adopts fixed effect model in all their reviews, however many other systematic reviews experts believe the opposite and that the use of a random effect model when heterogeneity exists is a more conservative way to minimize the effect of heterogeneity on the overall results.

Some of the other issues that are criticized, including the comprehensiveness of the abstract, are clearly editorial decisions made at the level of the editorial group and not based on the reviewer. There are word limits that need to be applied to make the abstracts readable (and accessible on PubMed); therefore, many of the methods can only be referenced to other available sources. It would be important if the authors noted whether or not there were references in the abstracts to the other resources available (through the Neonatal Cochrane Review Group website).

Although it is the recommendation of the QUOROM statement to include certain elements in the abstract of the systematic review; we do agree that most journals and Cochrane review groups find this quite difficult to apply due to word count restrictions to make the abstract readable.

As much as I found this extremely useful as an editor of the Cochrane Review Group, and will look carefully at our review and editorial process to mitigate some of the deficiencies noted by AlFaleh and colleagues and Dr. Al-Omran, I am unclear whether or not a general readership will be interested in this detail regarding Cochrane reviews. Since there are other publications that show that the reviews of other review groups are of less quality, it might be important for the neonatal community to know that the Cochrane reviews are relatively trustworthy based on these methodologic concerns.
We disagree with Dr Soll, we believe that it is important to all neonatal practitioners to know some of the methodologic limitations exist in the current reviews and that some were actually scored poor in the available measures of assessing the quality of systematic reviews.

No specific changes to the manuscript were made.

Grammar and language corrections
The manuscript has been reviewed and copyedited by International Science Editing.

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