Author's response to reviews

Title: Cognitive deficits in schizophrenia: an updated meta-analysis of the scientific evidence

Authors:

Mario Fioravanti (mario.fioravanti@uniroma1.it)
Valentina Bianchi (80.valentina@libero.it)
Maria Elena Cinti (mariaelenacinti@tiscali.it)

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To Barton Palmer
Journal Editorial Office
BioMed Central

Thank you for the very detailed work of revision that our paper has received. We have tried to fulfill all the requests of the reviewers in the way we thought they could be useful in improving our paper.

The text has been reorganized according to the editorial guidelines. In the process it has also been simplified in order to be clearer in accordance to the reviewers requests.

We have added tree diagrams and detailed tables, plus a flow-chart figure concerning the inclusion and selection process of the studies. They are in part in the text and in part as additional files when they were too numerous or too cumbersome to be part of the text.

One reviewer, who is in dissonance with the comments of the other reviewers, asked for many things, some repetitive. In my opinion some of the comments had already an answer in the text, but we have tried to comply with her request in any way. The following were the comments and next to each there is our answer.

Since the substance of different comments was the same, you will find our answer reported only for the first instance of each eventually repetitive specific matter.

- More detailed and clear statements about the study objective. Done
- Separation of methods from results. Done
- Inclusion and exclusion criteria (It is not clear what that means since the inclusion and exclusion criteria are very simple and were already described, but since in the same statement it is requested a more detailed description of all the studies (N = 240) we have prepared a table for this. This explain the long time it took to prepare this edited version of the paper.
- “narrow” key words used for the selection. I think this is a personal opinion and
as such we have considered it. When it is possible to identify thousands of papers with some key words I don’t think that such terms are to be considered “narrow”. Anyway, in the text we have added a part explaining that the search was executed with the same procedure of the previous meta-analysis in order to assemble all the papers in a single analysis (the previous data plus the recent ones).

- Another request on the selection process concerns how studies were selected. Done.
- Extraction of data procedure. Done
- Quality analysis. This is one of the major points of this paper. In order to make it clear to all, I have rephrased this part and even included a reference for its better understanding.
- Bias. Done
- Rationale to divide the studies in the different areas. Done, including one table which is descriptive of the measures used in the single studies.
- Semantic memory, why not examined?. Done
- In and out-patients. This is one of the few clinically potentially relevant information that could be retrieved from the studies. If other information would have been available we would have used them too.
- The methodological limitations. See the conclusion and a good part of the text.
- The comments about memory functioning, memory efficiency etc. seem to us already including questions and answers.
- In and out-patients question. Done
- Random effects method. Done
- Apples and pears. I didn’t understand that question (was it just a comment or a personal point of view?).
- Unbalanced number of cases. Here, I need to make a distinction between facts and opinions. It is obvious that a meta-analysis capitalizes on the sum of even small numbers of patients from the single studies (fact). It is also obvious that an eventual asymmetry of number of cases does not much harm for what concerns the effect size when obtained by confronting thousands of cases in each group (may be a fact but also an opinion). It becomes of paramount relevance when this asymmetry depends on a systematic negligence of study after study to take into consideration the need to have balanced groups in performing controlled studies (fact). That this is not relevant I disagree (opinion).

Meta-regression see reference.

Age. I like the clutter of facts and opinions. See the conclusions (fact) but we do not have added opinions.

Conclusions. Done

Theoretical background. I do not understand the comment.

Minor revisions. Done