Author's response to reviews

Title: The effects of psychological interventions on depression and anxiety among Chinese adults with cancer: a meta-analysis of randomized controlled studies

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Author's response to reviews: see over
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Title: The effects of psychological interventions on depression and anxiety among Chinese adults with cancer: a meta-analysis of randomized controlled studies

Dear Sir or Madam,

We have revised the manuscript by Yi-Long Yang et al. entitled “The effects of psychological interventions on depression and anxiety among Chinese adults with cancer: a meta-analysis of randomized controlled studies”. We follow the editor advice and addressed all of these concerns of the three reviewers. According to the reviewers’ question and advice, we have provided a point-by-point description of the changes made as follows.

The reviewer (Ayako Matsuda) advised that we should add some characteristics of included studies, but the Table 1 cannot accommodate these contents. So we have to add a table (i.e., Table 1 (supplementary)). Because there are too many figures and too large tables in this meta-analysis, the Table 1 (supplementary) would be displayed in final, laid-out PDF, or considered as additional files, we will agree with the decision according to editors’ and reviewers’ circumstances discretion (If this manuscript could be published).

In addition, two reviewers mentioned the issue of English. I ask a native English speaking colleague to help me copyedit this manuscript. However, maybe there are still some minor language issues.

Reviewer’s report

Version: 7 October 2014

Reviewer: Michael Schuler

Major and minor concerns on this manuscript:
1. The authors examined whether “study quality”, measured on a modified Jadad scale, has a moderating effect on the results. This scale consists of five items, e.g. “appropriate randomization” or “clear description of statistical methods used”. However, in my view, inappropriate randomizations may have a much stronger effect on the results than a less clear description of the statistical methods used. The authors state that 79% of the studies “had the high bias of inappropriate methods of randomization” (page 17, line 20-21). Therefore, I would recommend to do another moderator analysis, using just the item “appropriate randomization yes/no” as a moderator variable.

**Answer:** According to the reviewer’s advice, I have done another moderator analysis, using the item “appropriate randomization yes/no” as a moderator variable, but no moderating effects were found for this item.

*As shown on page 13, line 14-15, and Table 3.*

2. The authors should distinguish more clearly between factors that may have inflated the effect sizes in their study (e.g., not including unpublished work) and factors that might explain why the effects of psychological interventions may “really” be higher among Chinese patients as compared to patients in other countries (e.g., that the interventions were targeting both patients and family members. The former are limitations of the presented study, the latter are factors that may shed light on important differences between Chinese patients/ Chinese health system and the patients/ health systems in other countries.

**Answer:** According to the reviewer’s advice, I distinguish more clearly between factors that may have inflated the effect sizes in their study and factors that might explain why the effects of psychological interventions may “really” be higher among
Chinese patients as compared to patients in other countries. The former have been in the Limitation Section of the presented study.

As shown on page 24, line 16-18.

3. Why should the Self-rating Depression Scale and the Self-rating Anxiety Scale indicate higher effects in depression and anxiety than other well established measurements like the Beck Depression Scale (see page 19, lines 6-11)?

Answer: According to the literature review, there are no researches and theories supporting that the SAS/SDS indicate higher effects in depression and anxiety than other well established measurements. Maybe I would like to point out that SAS/SDS is different from other measurements, but the “different” is different from the “higher”. So I deleted the related contents.

Some other minor comments:

4. On page 5, line 12, the authors cite effect sizes by Faller et al. 2013. However, the cited effect sizes are not correct. The correct effect sizes are the ones cited on page 18, lines 18-20.

Answer: According to the reviewer’s advice, I used the correct effect sizes of Faller et al. 2013.

As shown on page 5, line 12-13.

5. Page 17, lines 11-12: “P=0.000” would indicate an impossible result. Please correct to “p<0.001”.

Answer: According to the reviewer’s advice, I corrected to “p<0.001”.

As shown on page 17, line 14-15.

Reviewer’s report

Version: 30 September 2014
Reviewer: Rosangela Caruso

Minor Essential Revision:
1. The text needs a general language check.

Answer: According to the reviewer’s advice, I ask a native English speaking colleague to help me copyedit this manuscript. However, maybe there are still some minor language issues.

Reviewer’s report

Version: 24 September 2014

Reviewer: Ayako Matsuda

Major Essential Revisions:
1. Methods:

Information about timing of assessment is important.

When were depression and anxiety assessed (EXAMPLE: 6 months post-intervention)?

Answer: According to the reviewer’s advice, I provided the information about timing of assessment in Table 1 (supplementary). However, many studies did not provide the clear and detailed information about timing of assessment, just as post-intervention (focus on psychological interventions) or post-treatment (focus on surgery, chemotherapy, radiotherapy and so on).

As shown on page 10, line 19 and in Table 1 (supplementary).

2. Statistical analysis:

2.1. In this meta-analysis, there were many kinds of questionnaires. How are these questionnaires related?

For example, does Depression of HAMD correspond to Depression of SDS?
Are there references about that?
You described that depression and anxiety were assessed using different questionnaires.

As sensitivity analysis, you should use data that were assessed by same questionnaires and conduct a meta-analysis.

**Answer:** According to the reviewer’s advice, we carefully reviewed the literatures about the different kinds of depression/anxiety questionnaires. As you say, there are no references about this topic (how are these questionnaires related). Depression of HAMD does not correspond to Depression of SDS. However, at least maybe three root causes are responsible for the relationship among these different questionnaires. First, these questionnaires are well established measurements used to measure depression and anxiety; second, these questionnaires are well established measurements among cancer patients; third, some meta-analysis, including our previous study, included the studies that used the different questionnaires (e.g., HAMD and SDS) to evaluate depression and anxiety among cancer patients. To some extent, the aim of meta-analysis is to synthesize and explore the commonality of these separate and different studies. As a result, although there are no references supporting the relationship among these different questionnaires, the aim of this meta-analysis is to synthesize the studies using these different questionnaires, and explore the effects of psychological interventions on depression and anxiety among cancer patients. On the other hand, I really appreciate your precious comments, and these comments will instruct our direction of research on the topic about the association between different questionnaires in the future.

According to the reviewer’s advice, I use data that were assessed by same questionnaires and conduct meta-analysis. No moderating effects were found for the
different kinds of questionnaires assessing depression (P > 0.05), but significant
effects of different kind of questionnaires assessing anxiety were found (P < 0.001).
Above all, the different kind of questionnaires used might influence the effects of
psychological interventions on depression and anxiety, and we should notice this issue
and explore the reasons in the future.

As shown on page 17, line 9-10, on page 22, line 19-21, and in Table 3.

2.2. You described that data in univariate and multi meta-regression analysis were not
shown. However, I recommend that you should add Table (or Figure in
meta-regression analysis) about the data as Appendix because no moderating effects
were found.

Answer: According to the reviewer’s advice, I add Table about the univariate and
multi meta-regression analysis as additional files.

As shown in additional files (Table).

2.3. In Table 3, there were the following descriptions, “P of comparison between these
subgroups”.

Where was the information about this statistical analysis?
What kind of the statistical analysis did you conduct to compare between these
subgroup?

Answer: I got the information about this statistical analysis form the book of
Borenstein et al. (i.e., the Reference 31). The related comments are detailed on page
150-158 (Chapter 19, Subtitle: Comparing A with B: a Q-test based on analysis of
variance (Method 2)).

I used the statistical analysis to compare between these subgroups, which are akin to
analysis of variance in a primary study. I quote that
“we partition the total variance (of all subjects about the grand mean) into variance within groups (of subjects about the means of their respective groups) and variance between groups (of group means about the grand mean). We then test these various components of variance for statistical significance, with the last (variance between groups) addressing the hypothesis that effect size differs as function of group membership.”

“As always, the absence of statistical significance (here, within subgroups) means only that we cannot rule out the hypothesis that the studies share a common effect size, and it does not mean that this hypothesis has been proven.”

“In Excel, the function to compute a p-value for Q is =CHIDIST(Q,df). For the test of A versus B, =CHIDIST(13.4626,1) returns 0.0002.”.

3. Characteristics of included studies:

It is important information that the psychological interventions were carried out for the patients receiving treatments for cancer or not.

You should add the information about treatments (EXAMPLE: surgery, chemotherapy, radiotherapy) and setting (EXAMPLE: Palliative-care settings, Non-palliative-care settings) in Table 1.

In addition, I recommend that you add Table about findings from the included studies (EXAMPLE: mean, standard deviation) next to Table 1 or as Appendix.

Answer: According to the reviewer’s advice, I add the information about treatments, mean and standard deviation in Table 1 (supplementary). Hospice and terminal home care studies were excluded because they might be distinct from psychological interventions, and patients in the included studies are in non-palliative-care settings in this meta-analysis.

As shown on page 10, line 19-20 and in Table 1 (supplementary).
Minor Essential Revisions”

1. All Figures:

There were no titles and figure legends in the all figures.

If abbreviations were used, the meaning of them should be explained

(EXAMPLE: RCTs = randomized controlled trials).

**Answer:** According to the reviewer’s advice, the meanings of abbreviations have been explained in the all figures, and we add the necessary figure legends.

In BMC Cancer, the title and legends was included in the main manuscript text file at the end of the document, rather than being a part of the figure file.

*As shown on page 52.*

2. Figure 3, Figure 4:

Do you have a meaning in order of the articles?

You should make the old order of the articles.

I recommend that you conduct a cumulative meta-analysis too.

You should add the following sentence in the figures, “Favors experimental group” and “Favors control group”.

You should express difference in size of subjects by square size in Forest Plot.

**Answer:** According to the reviewer’s advice, we make the old order of the articles, and we add the following sentence in the figures, “Favors experimental group” and “Favors control group”. We also express difference in size of subjects by square size in Forest Plot.

*As shown in Figure 3 and Figure 4.*

In addition, we conduct a cumulative meta-analysis too. However, we mainly focus on the effects of psychological interventions on depression and anxiety in this meta-analysis, rather than the history of this research field and the influence of
different points in time. Meanwhile, in this meta-analysis, the change of time span (2000-2013) is not obviously (Approximately 50% of the included studies were published during 2011 and 2013). Finally, there are too many figures and too large tables in this meta-analysis. So this content was not further discussed in our study, and we add the Figure about cumulative meta-analysis as additional files.

As shown in additional files (Figure).

3. Table1, Table2:

Do you have a meaning in order of the articles?

You should make the old order of the articles and add each number of references after names of the authors in Table1 and Table2 (EXAMPLE: Zhu et al 2013 [65]).

**Answer:** According to the reviewer’s advice, we make the old order of the articles and add each number of references after names of the authors in Table1 and Table2.

As shown in Table 1 and Table 2.