Reviewer’s report

Title: Melatonin and health: an umbrella review of health outcomes and biological mechanisms of action

Version: 1 Date: 18 Nov 2017

Reviewer: Evangelos Evangelou

Reviewer’s report:

The authors have adequately provided clarifications and responded to my previous comments. Congratulations for this nice effort. A couple of additional comments

1. R2-3: My comments refers to the number of authors that independently assessed and extracted data from each meta-analysis. If ALL five authors reviewed ALL papers then the group should be congratulated for this valiant effort but most probable they worked in groups of 2? Please clarify

2. R2-8: Still the rules for inclusion of SRs on the same association are unclear. For example if 3 meta-analysis have assessed the same associations do the authors consider all of them? Do they select the largest or the most recent meta-analysis?

3. R2-12. Thanks for the clarification. Maybe it would be more proper then to report separately narrative systematic reviews and reviews that have performed quantitative assessment or elaborate in this sentence which part of the 60% derived from the narrative reviews.

4. R2-14. Data synthesis is not appropriate title for this section. The authors report an overview of results that have to deal with strength of the evidence, precision, potential systematic biases etc. Actually this could be seen as effort to quantify the criteria included in several established tools such as GRADE that the authors report to their response.

5. R2-15. My comment refers to lack of clear reporting of associations (unless I'm missing it) that are convincing/highly suggestive/suggestive/weak based on the criteria that the authors have set up. A paragraph wrapping up this evidence would be rather helpful for the audience of the journal. As it stands right now, the statement is rather general.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes
Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

Quality of written English
Please indicate the quality of language in the manuscript:

Acceptable

Declaration of competing interests
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

No competing interests

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons
CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal