Reviewer's report

Title: Rhodiola rosea for physical and mental fatigue: a systematic review

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Reviewer: Myeong Soo Lee

Reviewer's report:

This is an interesting review of R. rosea for physical and mental fatigue. The authors tried to analysis this topic comprehensively with unbiased methods. I found the used ways of analysis is too complicate to know the fact easily. The authors missed the research design, type of population, definition of outcomes, etc. The combining the evidence of mixture and single herb maybe not good and this should be analysis separately. I commented the details as followings.

- Major Compulsory Revisions

Abstract
- Are there any differences between clinical studies and experimental ?
- The conclusion should be changed according to suggested analysis

Methods
1. Search strategy
The detailed search strategy should be noted as supplement. I’d like to know the author just searched the databases with the terms only. Did the authors not use the term ‘fatigue’? Please clarify this.

2. Is the term ‘experimental clinical study’ right? The term ‘any clinical or non-clinical’ maybe changed another words.

3. The authors included the intervention as R. rosea as part of the intervention e.g. herbal remedy. If they did, is it possible to know the sole effects of R. rosea from the whole effects?

4. The definition of ‘mental fatigue’ and ‘physical fatigue’ should be done.


Results
7. The search flow chart should be added.

8. The main limitation of this review is lack of clear definition of physical fatigue and mental fatigue. These should be defined and analysis the results according to the definition. I’d like to recommend summarizing the results with 2 outcomes, physical fatigue and mental fatigue. Although the authors summarize the results
of each study in details, it is hard to know the details of the included studies such as outcomes (detailed measurement for physical and mental fatigue, their results). How’s about to summarize the outcomes such as outcome 1 for physical fatigue, outcome 2 for physical fatigue, and outcome 3 for mental fatigue, etc.

9. I’d like to suggest that the authors analysis the included studies according to their research design-For example, R. rosea vs. control A, R. rosea vs. control B, R. rosea + treatment A vs. control A etc. I think we cannot conclude the evidence without sorting out the results according to study design, type of control. The type of intervention is also important. We cannot combine the evidence from the results of mixture and those of single compound. The target population are also considered when the authors analysis the results.

10. I think the description of each study is too wordy. The table contains much of information and the text maybe need to shorten.

11. The discussion section should be separated from results section.

12. Please add some sentence for the authors’ conclusion for the current evidence of R. rosea for physical and mental fatigue.

13. I cannot find the legends of figures.

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests.