Reviewer’s report

Title: Targeting the DPP-4-GLP-1 pathway improves exercise tolerance in heart failure patients: A systematic review and meta-analysis

Version: 0 Date: 29 Apr 2019

Reviewer: Tien Dung Nguyen

Reviewer's report:

Chen et al. assessed various effects of GLP-1-based treatments in heart failure patients by a systematic review and meta-analysis. They identified 4 eligible RCTs and found that GLP-1-based treatments improve performance in 6-min walk test and do not affect quality of life or the incidence of serious adverse events. Although the data are interesting, there are some major concerns that need to be addressed.

1. The authors used fixed-effect model to calculate the overall effect. However, this approach is inadequate considering the diverse characteristics of the trials. A random-effects model would have been the correct choice irrespective of the heterogeneity.

2. It is unclear how sensitivity analysis was conducted. What is R and how was it determined? I did not find any description for the calculation of R in the cited publication. Furthermore, the authors omitted only the smallest study for the sensitivity analysis. However, a complete leave-one-out analysis should have been performed.

3. The authors reportedly used funnel plots for sensitivity analysis, which is an uncommon method, because funnel plot is basically a tool to assess publication bias. Please show these plots and cite the literature to support this approach.

4. The manuscript contains many grammatical and typographical errors, which makes it difficult to understand. Furthermore, the context and relevance of the following section in the discussion is unclear: "The investigators ... or GLP-1 levels”.

5. Table 1, which one is correct: Margulies2016 or Margulies2017?
Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

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

Unable to assess

Are the conclusions drawn adequately supported by the data shown?
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Unable to assess

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
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I recommend additional statistical review

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

Not suitable for publication unless extensively edited

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