Reviewer's report

Title: Dietary quality indices modifies the effects of Melanocortin-4 receptor (MC4R) rs17782313 polymorphism on cardio-metabolic risk factors and hypothalamic hormones in obese adults

Version: 0 Date: 01 Dec 2019

Reviewer: Eisuke Amiya

Reviewer's report:

This study is about the association between melanocortin-4 receptor polymorphism and cardio-metabolic risk factors based on the dietary quality indices. The study was novel and much intriguing.

However, there were some issues to be addressed.

# Figure 1E demonstrated MC4R polymorphism affected the profile of serum LDL. How about the effect of statin? The effect of statin should be described more concisely.

# How about the blood pressure medications? Were patients who took blood pressure medications excluded from the current study? If not, the concise information about it should be added.

# The status of physical activity has a significant impact on the cardio-metabolic risk factors. How about the difference in cardio-metabolic risk factors in various physical activities in each MC4R polymorphism group and were there any differences in different MC4R polymorphism groups?

L249

in m² → in men?

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 recommend additional statistical review

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

Needs some language corrections before being published

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