Reviewer’s report

Title: Effect of lysine supplementation on Hypertensive Men and Women in selected peri-urban community in Ghana

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Reviewer: Wantanee Kriengsinyo

Reviewer's report:

- the title of the study "...... two peri-urban communities......" I did not see any text in the document mentioned about two peri-urban communities. It may not be necessary to have those words in the title.

- In the method part, it is not clear how to determine sample size: " A total of 15 men and 15 women ..... " what is the basis behind of this number?" This should be added in the manuscript.

- Trial profile in figure 1 the author mentioned "Did not meet inclusion criteria" therefore, the inclusion criteria, exclusion criteria should be added in the method part. If this study is only some part of the big study. Some details of the big study should also mention in the method part.

- Are there any reasons to study for 112 days? This should be clarified in the method

- This study: supplement lysine 1000 mg/day as 2 tablets per day. The compliant should be added in term of how to measure compliant and also the result of this part.

- It is not clear the equation the authors mentioned on line 99 ": Lysine = (86.3 x APg/day)+(19.8 x CPg/day)+(63.6 xPSg/day) +599" The number 599 is the constant factor of lysine from????

- since the blood pressure is the main variable or outcome of this study, it is important to mention how the authors measured blood pressure. Whether the blood pressure data is valid?? Who measure?? Condition of the measurement? how often to measure? Did the authors aware other confounding factors affecting the blood pressure? What are they and how to control?

- table 1: line Lysine* mg/g = 41.1. It should be Lysine* mg/g protein = 41.1

- table1: should have footnote to describe how those numbers derive from

- table 2: should explain the superscript 1,4 and should add other characteristics related to this study. The baseline blood pressure could be added here too.
- Table 3: Please indicate how do you calculate "nitrogen content"? It is not clear why the protein intake of placebo (53.37) give lower nitrogen (8.18) comparing to the number nitrogen of 8.22 of the lysine group which had lower protein intake (51.35). Are there anything wrong?

- Table 3: The authors explained the superscript 3 (% of risk inadequacy); however, there are another superscript 3 with the "utilizable protein" which the authors did not describe anything about this. It is necessary to describe utilizable protein with the new superscript.

- Table 3: it is quite confused that lysine supplement of 1000 mg/day did not meet the lysine requirement of some female subjects in this study. This result should be clarified more in the text.

- Table 4: The authors described superscript 2 at the footnote; however, no this number of superscript in the table.

- Please consider to combine the content of table 4 in the table 3.

- The study covered almost 4 months. Were there any changes in dietary pattern or intake of all participants? Whether the lysine intake were constant? How much of the variation from day to day?

- Table 5: indicated only the blood pressure of the subjects who had hypertension. It is important to show the results of blood pressure for other participants too. Based on the table 5, the number of hypertensive participants were 19+8 for lysine group and 19+13 for placebo group which were 58.7% and 78% of the group. This information was not the same as the text on line 172 which the authors wrote 32.2% in male and 24.4% in females had hypertension (what group?) Based on the table it should be 41% in male and 17% in females for the lysine group and 43% in male and 29% in female in placebo group. Please recheck the correct data.

- Figure 1: the number in the [ ] is not the double as the household (two persons: male and female) mentioned in the text .....428* [1194], 232[696], (84[252], 22[66]. ..... Please clarify.

- Figure 3: is not necessary. Suggest to delete.

- Line 248 should be 1000 mg not 1000 g.

- The study did not collect any factors that may affect blood pressure. Therefore, the conclusion of this study should not state strongly the effect of lysine supplement on reducing blood pressure. More well controlled study is needed. This study should be only the observation study showing the possibility of the benefit of lysine supplement.
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.

Yes

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

No

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

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