Reviewer's report

Title: Anti-obesity Effects of Yerba Mate (Ilex Paraguariensis): A randomized, double-blind, placebo-controlled clinical trial

Version: 2
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Reviewer: Kehua Zhou

Reviewer's report:

In this RCT, Kim et al explored the therapeutic effectiveness and safety profile of Yerba Mate for improvement of overweight related parameters. It is an interesting article; however, I have the following concerns:

Major Compulsory Revisions
1. Could you please provide a reference for the diagnosis of obesity in your manuscript? Your reference 1 of the Asia-Pacific perspective does not have the diagnostic criteria for obesity. Based on my understanding, BMI >= 25 and <30 is considered as overweight. If this is the case, I recommend the authors change the relevant statements throughout the article.

2. Test supplements: 3g/day does not equal 350mgX 3 capsules; please check. The sentence "Subjects were instructed to bring......dose" is unclear.

3. Statistical analysis: In sample size calculation, "...decrease body fat, which was calculated to be a 3kg decrease....", what does "body fat" refer to? How did you get the information of a 3kg decrease? Please consider add reference(s) if available.

4. Statistical analysis: Did you do group comparisons? How did you do it? The description of statistical methods used is unclear and the statistic methods for comparisons before and after treatment as well as between groups seem wrong.

5. Results, I believe you need to briefly describe the findings rather than providing the tables and figures only. The figures are difficult to understand; do the numbers represent the median/mean?

Minor Essential Revisions
1. Introduction: I think you need present the clear logic regarding why did you perform the study. You mentioned polyphenols and phenolic acids; what are the relationship between these two substances with the study objectives? I believe you may want to briefly mention the reasons for the use of the various types of outcome measurements for efficacy assessment. You may also want to rewrite the study objectives so readers can better understand what are the outcome measurements.

2. Study design: how did you decide who to do the telephone screening interviews and how many calls did you make? How did you randomly assign participants to each group? What is functional foods? I believe the sentence "Every 6 weeks, subjects were asked to....compliance" is redundant. I don't think
you need to mention "A CONSORT checklist...."

3. Subjects: Please provide references for the diagnosis. Many of the exclusion criteria are redundant. Some information belongs to Results.

4. Efficacy outcome measurement: please check "five clinical visits"; how did you assess abdominal fat distribution using CT?

5. Results, Subjects: what is "a protocol violation"?

Level of interest: An article of importance in its field

Quality of written English: Needs some language corrections before being published

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

No competing interest exists