Reviewer's report

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

Version: 2 Date: 2 May 2015

Reviewer: Xiao Su

Reviewer's report:

This study investigates the effects of Yerba Mate on obese individuals through a randomized placebo controlled clinical trial. The following comments should be considered by the authors in the revision process:

Abstract

This is a bit too brief given that the word limit for the Journal is 350 words. More information on background should be included. For methods, the number of Yerbe Mate capsules and placebo on daily basis should be provided. For results, what are the safety parameters measured?

Background

Authors indicate that Yerba Mate modulates signaling pathways. Please provide name of those pathways, in particular relate it to fat metabolism if any.

English expression of this section needs to be improved as further detailed under the Language and Editorial improvement.

Methods

Was the 4 weeks screening period before or after the 12 week intervention?

Details of randomization should be provided - who randomize the subjects? how it was done, manually or use the computer software? what criteria/parameters were used in the randomization? How the two groups were balanced for the major parameters?

The number of different gender in each group should be provided.

Smoking is normally excluded in weight loss trial as it could alter individual's metabolism. Authors should provide a rational to explain why it is included in their study.

Authors should clarify the number of clinical visits per subject. From the description under the efficacy outcome measurement there seems only four not five?

Results
Last sentence in the legend for Fig 2 is not clear. Please revise.

If there are only 25 subjects finished the study, why all Tables showed results of 15 subjects for each of treatment and placebo groups?

Subtitle "Lipid metabolism" is not appropriate.

Reference to support statements in lines 280 - 283 should be included.

Discussion

The significance of total fat mass and fat percentage reduction should be provide.

Possible mechanism of the above should also be included in the discussion.

Discussion on why reduction of total fat mass and fat percentage observed in the study does not lead to the decreased level of TG and body weight should be more detailed.

Authors cited the references on chlorogenic acid and their effects on cholesterol and weight loss. They should relate this to their study and finding.

Language and editorial improvement

line 61, "the latest WHO global projections ...... in 2005". This should be revised or deleted as it has passed and now we are ten years late.

lines 67-68 "However, only a few drugs enter and stay on ......" . This sentence should be rewritten.

line 80 - 81 "More recently, Yerba Mate tea is being consumed ...." should be revised.

line 90-91 "After feeding animals Yerba Mate for 4 weeks ......" should be revised.

There were some repeating description, e.g., line 110, 114 and 185.. line 153 and line 155.

line 206, ".....7 met were excluded due....". Please revise.

line 310, "...... of Yerba Mate on fat decrease, " should be revised.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Not suitable for publication unless extensively edited

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.