Reviewer's report

Title: In vitro inhibitory effects of plant-based foods and their combinations on intestinal alpha-glucosidase and pancreatic alpha-amylase

Version: 1 Date: 29 May 2012

Reviewer: Salma Tukan

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Minor essential revisions

Title:
- “water extract” should replace “extract”.
- better to mention the form of the plants (dried).

Methods:
- Should refer to table 1 in this section.
- Should indicate if plants were authenticated.
- Should give reference(s) to the method(s) of the water extraction and drying of the plants.
- Should indicate in this section or in the other sections what plant components are expected to be in the studied water extract and/or wither the water extract is the one usually consumed.
- Should indicate the type/model of grinder, spray drier and spectrophotometer used, particle size of the ground (milled) parts and temperatures of drying.
- The ratio of the weight of plant material to water used in extraction need to be mentioned.
- There is a need for further details or clarification of the methods used for the determination of phenols and flavonoids contents and enzymes inhibitory activity with respect to samples weights and aliquots used.
- It is not clear whether the determination of phenols and flavonoids was done on the dried- or the aqueous extract.
- The combinations of extracts do not show the amounts used from each dried extract.
- In the calculation of inhibitory activity, the “control” and “sample” in the formula used should be explained.

Results
- Should check the numbering of figures in the text as well as in the list.
- No reference is made to Table 1 in the text.
- The last two parts dealing with enzymes inhibitory activity and IC50 require
more details or clarifications.
- Better to change Figures into table form at least for Figure 1, it is much easier to obtain the information.
- Better to have the plant in the x-axis and the % inhibition in the y-axis with a legend for figures 3-5 if space is not enough for the plant name.
- Concentrations of extracts should appear on the figures/table.
- In page 20 Line 4 from below: was significantly increased by …” is not correct and requires rewriting e.g. “to” should replace “by”.

Discussion
- Any explanation or mode of action for the synergistic enzyme inhibition of roselle combinations?
- Indicate the importance of the high inhibitory effect of mulberry leaves extract on glucosidase as compared to the effect on amylase.
- Based on the results of the study, what plants are recommended to be taken for the prevention of diabetes and at what level?

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

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

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:
I declare that I have no competing interests