Reviewer's report

Title: Phytochemical profiling and in vitro screening for anticholinesterase, antioxidant, antiglucosidase and neuroprotective effect of three traditional medicinal plants for Alzheimer's Disease and Diabetes Mellitus dual therapy

Version: 1 Date: 30 Jun 2017

Reviewer: Ephrem Engidawork

Reviewer's report:

* Avoid use of abbreviations in the title. Use of abbreviations in Abstract is not advisable. If it is a must, should be explained on first use.

* Please mind the use of language. For example, Page 3, Line 50: "suspension" should be replaced with "termination"; Line 57-58 requires rewording. The Introduction is lengthy and contains non-essential items. Thus, it should be overhauled. The authors have used several methods and produced a body of data. However, they were unable to make a story out of these data.

* Page 3, Line 60 requires citation. Do not use both numerical as well as author citation in the text. The Journal requires numerical citation.

* Please provide some information as to how the Database search mentioned in Page 5, Line 90-92 was conducted.

* Information presented in Table 1 and 2 can be included among the narration of the Introduction and Method (Extraction) section, respectively.

* Results and Discussion: this section repeats what is mentioned in the "Material and Method" section. It would be better to describe the results first and this can be followed by discussing the findings.

* All assays involved either negative or positive controls. However, no statistical comparison of test substances with the controls had been made.

* The inhibition of $\alpha$-amylase and $\alpha$-glucosidase, which are involved in the hydrolysis of sugars in vivo has been an important strategy for the management of diabetes thereby lowering postprandial glucose level. Wouldn't it have been better to assess the activity
against these enzymes rather than alpha- and beta-glucosidases, as the latter is mainly involved in cellulose and glycoprotein metabolism?

* The claimed active fraction, the chloroform fraction, appears to have more activity on butryl cholinesterase rather than acetyl cholinesterase. How does that make the plants to be potential agents for treatment of AD? Moreover, cytotoxicity assay revealed that cell viability ranged from 30% to 60%. Is it possible to say that the plant is safe?

* Would be good if correlation analysis is done between phytochemical profile and biological activity so that evidence could be provided for the assertions made in the "results and Discussion" section.

**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.
Unable to assess

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