Review of: "An Investigation of The Phytochemical Richness of Fresh Musa Paradisiaca L. (Plantain) Stem Juice and Its Anticonvulsant Potential on Pentylenetetrazole (Ptz)-Challenged Rats"

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Potential competing interests: No potential competing interests to declare.

The article is well-presented and written, although it has some grammatical and consistency errors that should be reviewed.

The results obtained are indeed promising. This type of plant extract, in this case, a mechanical extraction of the plant material's own juice, inevitably presents a high phytochemical complexity, making it difficult to assess which compounds or compound families account for the anticonvulsant potency observed in the treatments.

The article carries out a phytochemical characterization in excessively broad categories, as the methods used are broad-spectrum and, therefore, lack specificity. For instance, within the flavonoid family, there are different groups and hundreds of different compounds with biological properties that can also vary significantly. My initial suggestion to the authors would be that, in future research, they delve deeper into phytochemical characterization and attempt to evaluate separately (isolate) the fractions that could have greater potential as anticonvulsants, either through GABA modulation or other receptors involved in the manifestation of epileptic episodes.

- Other more specific suggestions include:

1. *Musa paradisiaca L.* does not actually have a stem as such, and in most publications, it is usually referred to as a pseudostem. For example:

U.D. Akpabio et al. The Physicochemical Characteristics Of Plantain (Musa Paradisiaca) And Banana (Musa Sapientum) Pseudostem Wastes. Advances in Natural and Applied Sciences, 6(2): 167-172, 2012.

There are many others. It is recommended to review and consider changing "stem juice" to "pseudostem juice" in the text.

2. Throughout the text, it is mentioned that groups IV, V, and VI received oral doses of 50%, 75%, and 100% of the "stem juice." However, the dose in mg/kg of body weight that the rats in each group are receiving is not specified at any point. This is important to clarify. Quoting directly from the reviewed article:

"*Groups IV, V, and VI received 50, 75, and 100% (v/v) oral doses of MP stem juice, respectively*"

3. In the following sentence, review the format of reference [3]. It does not match the rest of the references:

"…(*PLWE) is thrice that of the general population, whereas over 70% of the PLWE could survive if properly diagnosed and treated [3]. Despite the advances*…"

4. In the *Equipment* and *Chemicals/Kits* sections, start with lowercase letters after commas. Also, the use of ; and , is inconsistent. Please review.

5. In the Phytochemical screening of MP stem juice section, concentrations of different compound families are given in mg/g when dealing with liquid samples (juices). In this regard, it might be more appropriate to indicate the concentration values in mg/L or any other weight/volume value. Additionally, it could be interesting to include in the tables the values of total solids in weight/volume and specify that the concentrations are not normalized to the dry weight of the samples.

The discussions and conclusions of the article are well-focused, and the comparisons made with other botanical extracts, animal models, and even other receptors involved in the occurrence of epileptic episodes are very insightful and help contextualize the results obtained in this publication.

I believe that, with some minor revisions, the article is publishable due to the novelty it presents. Furthermore, it serves as an excellent starting point for delving into the phytochemistry of this natural remedy, encouraging the development of more selective extraction techniques to increase the extract's potency and explore solutions within the nutraceutical or even pharmaceutical sector, where they could have commercial value.