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.

I want to thank the management of this journal for the invitation to participate in reviewing this manuscript. I also want to appreciate the effort of the authors in carrying out this work.

My views are:

Title.

The title is long yet doesn't cover the scope of the work done. Should be revised. The scientific nomenclature should be italicized accordingly.

Abstract:

1. It does not include the phytochemistry and how the extract used for the treatment was obtained, despite being part of the title.

2. The study was to find the therapeutic effect of the named plant stem juice, but the treatment with the plant stem juice first before PTZ, which is supposed to induce seizures, is more prophylactic than a therapeutic study of this juice.

3. The authors also failed to state the role of group I and the difference between group I and II, and the use of diazepam in group III.

Background:

1. The authors mentioned risk factors that led to a high incidence of seizure disorders in sub-Saharan Africa, like brain infection, cranial and perinatal traumas, and infections. Did they try to screen the experimental animals for these factors before using them for this work?

2. They stated that the majority of these risk factors can be reduced or prevented by orthodox medications, but.....this is not related to this work. It should be expunged.

3. [3] should be written accordingly.

Materials and Methods:

Experimental animals:

1. What was the rationale for using adult albino mice of unknown sexes and male albino rats together in this work?

2. GP II: "untreated control" ???? and yet treated with PTZ.

GP III: "standard control" ??? and yet treated with diazepam.

The authors should find the right description of these groups as the terms used are confusing.

What is the use of diazepam as a control..... please explain.

Why did you use 50%, 75%, and 100% of the extract for these treatments? Explain the rationale and your references.

Evaluation of seizure activity (seizure manifestation):

If the authors had screened the animals for underlying infection and brain trauma, they could have been able to confirm that muscle stiffness observed, for example, was because of the action of PTZ and ruled out myoclonus, etc.

Also, without standard instruments like EEG and MRI of the brain, it is difficult to rule out other conditions that could have led to tonic and clonic seizures observed.

The LD50 could be determined in mg/kg body weight.

Discussion:

"The extreme weakness observed in the convulsing rats in the untreated group shows the extent or level of damage done to the rats' neuronal cells by the PTZ" ... this is highly speculative since the cells were not observed.

My conclusion:

The work is good, and I want to appreciate the effort of the authors, especially in the flow of the write-up and in their attempt to elucidate the potential anticonvulsive properties and effects of MP. The work could be accepted for publication after addressing all the issues that require major revision, including the observation of certain brain activities with EEG, if possible, to rule out other hyperactivities of the motor neuron group.