

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"

Opeyemi Samson Osuntokun¹

¹ Federal University Oye-Ekiti

Potential competing interests: No potential competing interests to declare.

Background

From the background of the study, the authors reported that "Most seizures last from 30 seconds to 2 minutes, but the one that lasts beyond five minutes is a serious medical issue (Neubauer, 2008)".

Suggestion: The name of such a type of seizure could have been mentioned; it is called convulsive status epilepticus

[**References:** Osuntokun O.S., Olayiwola G., Adekomi D.A., Oyeyipo, I.P., Ayoka A.O (2021). Proanthocyanidin obtained from Vitis vinifera seed attenuates memory impairment sequela to convulsive status epilepticus. Epilepsy and behaviour, 124, 108333. Publisher: Elsevier. DOI:10.1016/j.yebeh.2021.108333]; and Osuntokun, O.S., Olayiwola, G., Adedokun, K.I., Ademoye, K.A., Adegoke, A.A., Ayoka, A.O (2022). Modulation of the indices of psychosis in a post-convulsive status epilepticus model: the role of the proanthocyanidin-rich fraction. Trop J Nat Prod Res, 6(7), 1146-1151].

In the background again, the authors stated that "According to the World Health Organization (WHO) fact sheet on epilepsy, the premature death risk in people living with epilepsy (PLWE) is thrice that of the general population, whereas over 70% of the PLWE could survive if properly diagnosed and treated [3]".

Suggestion: The citation style has to be consistent and should follow the journal's format.

From the background of the study, the author reported that "Studies have shown that, despite the use of these drugs, up to 30% of patients continue to suffer a seizure crisis (He *et al.*, 2021; Chen *et al.*, 2018)".

Suggestion: The citation should be written in chronological order, i.e., the oldest reference comes first, followed by the newest.

Also from the background of the study, it was stated that "In recent years, **several plants** have demonstrated high levels of potency against seizures/convulsions; and results from the phytochemical and pharmacological studies reviewed that it is due to the presence of bioactive compounds such as flavonoids and other phenolics that have similar mechanisms of action as their synthetic counterparts (Edo *et al.*, 2023).

Suggestion: I was expecting to see more than a reference, as Edo *et al.* only worked on scent leaf.

In the background, moreover, the references cited by the authors to support the statement “Medicinal plants’ pharmacological potentials are mainly brought about by the bioactive ingredients or compounds in them such as flavonoids, terpenes, saponins, tannins, proteins, alkaloids, and phenolic components (Tungmunthum *et al.*, 2018; Rao *et al.*, 2016) should be written in chronological order”.

Plant material

The authors have described very well how the plant material was collected and the voucher specimen was deposited in the herbarium unit of the Botany Department, University of Nigeria, Nsukka, for future reference but failed to show the voucher reference number.

Experimental animals

What were the genders of the mice used for the study, and what type of feed were they served to eat? All these are worth mentioning.

Discussion

The citation in the first paragraph is advised to be written in chronological order.

In the third paragraph, the authors compared their findings to the study of Mehrzadi *et al.* (2015). This may not be in tandem because of the disparity in the mechanism of action of PTZ and strychnine; while the former is a GABA antagonist, the latter is a glycine/acetylcholine agonist.

The authors made a categorical statement: 'The extreme weakness observed in the convulsing rats in the untreated group shows the extent or level of damage done to the rat's neuronal cells by the PTZ.' This is a sensitive statement that could have been backed up by the architecture of the brain, but unfortunately, the histology of the brain was not investigated following the seizure.

Conclusion

The authors claim that the study provides pharmacological evidence for the folk belief behind the use of *Musa paradisiaca* stem juice to manage epileptic convulsions or seizure disorders. It is expected that the author points to the specific pharmacological mechanism of the said plant. Additionally, it is imperative that the authors make recommendations for subsequent/future studies in a bid to establish their findings.