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.

1. The study's exploration of Musa paradisiaca L. (MP) stem juice as a potential treatment for epileptic convulsions in a PTZ-induced seizure model in rats is intriguing. However, considering the complexity of epileptic conditions, a more comprehensive assessment of the mechanisms underlying the observed effects would significantly strengthen the study's scientific merit. Elucidating the specific pathways or neurobiological mechanisms targeted by the MP stem juice could enhance the understanding of its potential therapeutic value.

2. The phytochemical screening revealing bioactive compounds in MP stem juice is valuable, especially given the presence of phenols, alkaloids, and flavonoids. To further validate the therapeutic potential, correlating the identified compounds with their known neurological effects or anticonvulsant properties reported in the literature could substantiate the link between the constituents and the observed outcomes.

3. While the study presents compelling evidence of MP stem juice's effect on delaying seizure onset and reducing seizure duration, a larger sample size or diverse experimental models might bolster the generalizability and reliability of the findings. Expanding the study to different seizure models or additional animal species could broaden the understanding of the treatment's efficacy and safety profile.

4. The paper asserts the pharmacological evidence supporting the folk use of MP stem juice for managing epileptic convulsions. However, delving into the safety profile of MP stem juice in long-term use, potential adverse effects, or optimal dosing regimens would provide a more holistic view for clinical translation. Moreover, human studies or further preclinical investigations could validate these findings for potential therapeutic applications.