

# Review of: "Toxicological evaluation of aqueous extracts of *Clematis hirsuta* and *Rhamnus prinoides*"

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**Potential competing interests:** No potential competing interests to declare.

"Toxicological evaluation of aqueous extracts of *Clematis hirsuta* and *Rhamnus prinoides*" by Caroline Wanjiku Kinuthia et al.

1.The article explores the acute and subacute toxicity of *Clematis hirsuta* and *Rhamnus prinoides* extracts in Wistar rats. The researchers measured changes in body weight, feed and water consumption, as well as various biochemical and hematological parameters. They concluded that oral administration of these extracts to Wistar rats is generally non-toxic.

## Study design and methods used

While the study design seems appropriate for assessing toxicity in rats, it's important to remember that animal studies have limitations in predicting human responses accurately. Additionally, the sample size of the rat groups and the lack of a positive control group could be potential limitations.

2.The article touches on the importance of toxicological research in the safety evaluation of traditional medicines. However, it would have been more impactful if the authors provided specific examples of other traditional medicines that have shown toxic properties. This could have strengthened their argument about the need for toxicological evaluations for herbal medicines.

3.The article reports that rats treated with the highest doses of the extracts showed significantly higher weight gain than the control group. How would you interpret this finding?

The unexpected weight gain in the treated rats raises questions about the extracts' effects on metabolism and overall health. This finding might contradict the notion that the extracts are generally non-toxic. Further investigation is required to determine whether this weight gain is a potential safety concern or merely a transient effect.

4.The study didn't evaluate the effects of the extracts on major organs in the rats. The lack of evaluation of major organs is a significant limitation of the study. Toxicological studies should include organ histopathology to provide a comprehensive assessment of potential toxicity. Without this information, it's challenging to determine the safety of these extracts fully.

5.Overall, the article explores the acute and subacute toxicity of the *Clematis hirsuta* and *Rhamnus prinoides* extracts in Wistar rats. While the study design appears appropriate, it has certain limitations, including the lack of histopathological evaluation and the relatively small sample size. The study's conclusion that the extracts are generally non-toxic might be

premature, considering the unexpected weight gain and reduced feed and water consumption observed in the treated rats. More research is needed to draw definitive conclusions about the safety of these extracts, especially in human contexts.

#### Recommendation

While the topic is of interest, it is crucial to prioritize scientific accuracy, thoroughness, and ethical considerations. I recommend the authors address the comments raised to strengthen their findings. They should also consider conducting additional experiments, including histopathological evaluations, to provide a more comprehensive assessment of potential toxicity.

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