

Review of: "Phytochemical Contents, GC-MS Analysis and Hepatoprotective Effect of the Methanol Leaf Extract of *Camelliasinensis* (L.) Kuntze on Paracetamol-Induced Liver Injury in Wistar Rats"

Shafia Arshad¹

¹ Islamia University of Bahawalpur

Potential competing interests: No potential competing interests to declare.

This is a well-written and detailed research paper investigating the phytochemical composition and hepatoprotective activity of *Camellia sinensis* (green tea) leaf extract in a rat model of paracetamol-induced liver injury. The experiments are thorough, the methods are clearly described, and the results are logically presented and discussed. A few minor revisions could further improve the manuscript.

Strengths:

- Thorough phytochemical screening using standard methods supplemented by GC-MS analysis to identify bioactive constituents
- Quantification of total phenolic and flavonoid contents, known to possess antioxidant effects
- Well-designed in vivo study in rats to evaluate hepatoprotective effects against paracetamol toxicity
- Comprehensive analysis of liver function biomarkers and histology to assess protection
- Logical discussion putting findings in context of previous studies on *C. sinensis*
- Overall, sound scientific methods and clear writing

Weaknesses:

- Introduction could provide more background on paracetamol-induced liver injury and rationale for using this model
- Methods lack some details on commercial sources/product numbers for major chemicals used
- No separation/isolation of individual compounds from extract for testing
- Limited mechanistic investigation into how extract exhibits hepatoprotective effects
- Discussion doesn't speculate much on which particular phytochemicals may be responsible

Suggestions for Revision:

1. Expand the introduction to better contextualize paracetamol-induced liver injury and its clinical relevance.
2. Provide commercial sources and product codes for major chemicals and reagents used.
3. Consider discussing feasibility of isolating/identifying the specific compound(s) conferring hepatoprotection in future work.
4. Expand discussion to hypothesize potential mechanisms based on known activities of identified phytochemicals.
5. Proofread manuscript carefully to correct minor grammatical/spelling errors.

Overall, this is a rigorous study making a valuable contribution to knowledge of *C. sinensis* phytochemicals and hepatoprotective effects. With some minor revisions, it should represent a strong publishable work.