

# 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"

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Potential competing interests: No potential competing interests to declare.

TITLE:

1. The title of the paper is not well framed and needs correction.

Such as:

Assessment Of Bioactive Compounds in Methanolic Leaf Extract Of *Camellia sinensis* (L.) Kuntze against Paracetamol-Induced hepatotoxicity in Wistar Rats

ABSTRACT:

1. Sentence not well framed and needs correction such as:

*Camellia sinensis* is a tree popularly called green tea used it can be written as

*Camellia sinensis* popularly known as green tree has strong antioxidant properties and is used in the treatment of cancer.

1. The experiment is used to assess the hepatoprotective bioactive compounds and not the phytochemicals.

Specifically mention 5 or 6 rats and the no of experimental groups with specifications such as control, plant *per se*, toxicant, therapy and Standard (silymarin)

1. Sentence needs to be reframed

groups of five rats of six rats in paracetamol-induced liver toxicity, while liver biomarkers were evaluated using automated methods.

1. Major phytochemicals and hepatoprotective compounds identified are to be named in the abstract.

2. The retention time does not need to be mentioned here as this is not used for the identification and varies from 1 instrument to the other.

Mention the fatty acids important as hepatoprotective compounds.

The GC-MS analysis showed 18 bioactive compounds which are mainly fatty acids with retention times between 7.436

and 18.462 min

1. The unit is mg/Kgbwt and mention extract as dose because in the experiment it is being used as dose.

The acute toxicity did not produce any sign of toxicity at a dose of 5,000 mg/kg of extract.

1. Needs correction: acute exposure instead of toxicity studies and Total phenolic content and Total flavonoid content. Phytochemical analysis and hepatotoxicity should also be included

**Keywords:** *Camellia sinensis*, GC-MS, Toxicity studies, Total phenolic, Total flavonoid.

## INTRODUCTION

1. The word plant is being repeated the sentence needs to be reframed. Correct such sentences throughout the manuscript.

Studies have shown that more than 25% of conventional drugs were derived from plants with many bioactive compounds from plants acting as lead agents

Medicinal plants have been used and are still being used to treat diseases

1. This can not be the reason for the family to be unique as plants of many other families may also possess therapeutic properties.

This family is unique because of its numerous uses as antioxidants, anticancer, antidiabetic and analgesic.

3. Delete pictorial view of, and if the picture has been taken by the authors, then no need to write the reference.

**Plate 1.** Pictorial view of *Camellia sinensis* in its natural habitat at Mambila Beverages Ltd., Nguroje (Ukwubile et al., 2020).

4. Plant press is not an appropriate word; it should be written as

A plant herbarium was deposited.....

A plant press was done and deposited in the herbarium of the Department of Pharmacognosy, University of Maiduguri, Nigeria.

## MATERIALS AND METHODS

4. Nowhere in the abstract has the stembark been mentioned.

Leaves and stembarks of *C. sinensis* were air dried

4. Units should be written correctly, such as degree in this

at 25 °C for 2

4. The ratio of the powder to solvent extract should be mentioned.

The dried and ground powder (469.0 g) was extracted with aqueous methanol (1600 mL) in an air-tight separatory funnel for two days.

8. It should be written as Whatman filter paper No. 1

Whatman number 1 filter paper

4. Mention the temperature of the water bath.

What do you mean by aqueous methanolic extract? If it was water and methanol, then what was the ratio.

The filtrate was concentrated using a water bath at room temperature. The weight of the aqueous methanol leaf extract was 215.6 g (% yield = 45.97).

4. The plant part selected for the study is still not clear, as somewhere it is mentioned as leaf, some places as bark, and at some places both. Now in the GC-MS, it is mentioned as bark.

The phytoconstituents of compounds present in the crude methanol extract of stem bark

4. Units of temperature not mentioned, degree centigrade

initially 50 °C for 5 min and raised to 250 °C at the rate of 20 °C/min for 5 min (Ukwubile et al., 2019).

4. TPC and TFC should come after the phytochemical analysis, and GC-MS should come after this.

References for these should be mentioned in the first line.

4. It is gallic acid equivalent, not equipment.

Where TPC is total phenolic contents (in mg gallic acid equivalent; GAE per gram),

Where TFC is total flavonoid contents (in mg rutin equivalent; RE per gram),

4. Now, here comes avocado methanol seed extract. The manuscript should be carefully studied before submission. Such mistakes are not acceptable.

Briefly, 0.5 mL of the avocado methanol seed extract was added to a test tube containing 2 mL of 98.1 % (v/v) methanol.

4. One reference is enough; the protocol of which was followed.

Finally, the absorbance of the solution was measured at 510 nm (Ayele et al., 2022).

4. The average weight, as Mean  $\pm$ SD, is mentioned. This is not the correct way of mentioning the weight.

Thirty-five (35) healthy Wistar rats of both sexes, weighing between 100 and 150 g, were

4. The conditions in which the rats were acclimatized need to be mentioned. Refer to any research manuscript published in a good journal. Also, the number of the Ethical Permission Certificate needs to be mentioned.
5. Acute toxicity of how many days, please specify. It's acute toxicity, not acute oral toxicity. The word "oral" is not required to be mentioned here as *p.o* (*per os*) means orally. Reframe the entire 2.8 section and go through a good research paper before writing.

### ***Acute oral toxicity study of C. sinensis methanol leaf extract in rats***

4. Plant *per se* group should also be included in the experimental design.

p.o. should be written in italics.

4. Standard units should be used; h for hours

Sacrificed 24 hours after .....

4. It will be 200 mg/Kgbwt

200 mg/kg PCM (paracetamol)

4. EDTA sample is wrong; the blood will be collected in serum collecting tubes. If EDTA-coated tubes will be used, blood will not coagulate, and serum will not be separated.

was collected by cardiac puncturing into an EDTA sample, and serum was used for the analysis of liver function parameters.

4. It should be represented as PCM (200mg/Kgbwt) + Th1(200mg/Kgbwt)

Where Th1 is dose I and Th2 is dose II. This will be clearer as compared to what you have mentioned.

So, you can mention as Group I, Group II, Group III, and so on, and the details can be mentioned once in the table.

What has been given to the Normal Control, as in the normal control, no dose of any kind is given.

The animals in groups II to V were each given 200 mg/kg PCM (paracetamol) twice weekly for eight weeks and CSE:

4. Give reference; *also mention the microscope used.*

### ***Histopathological examination of the liver***

#### **RESULT**

4. Add chromatograms collected from the NIST library of all the bioactive compounds of interest.

Make a table showing M. wt/Formula, Base peak, m/z values, and the bioactive role.

It showed mainly nine saturated and unsaturated fatty acids, two fatty acid derivatives, one polyphenol, and two alcohols, as well as others with their respective retention times (RT), mass-to-charge ratio (m/z), peak areas (PA), and chemical formulas (Fig. 1; Table 3).

4. Values will be Mean±SD

The total phenolic content (TPC) of the methanol leaf extract was determined to be 1425.22 mg GAE/g.

4. The equation needs correction; a comma is present in place of a full stop.

27 As you took rats, both male and female, then the results should show the values of males and females separately. But if you have not done a sex-based study, then that should not be mentioned.

28 In the materials and methods, you did not mention the electrolytic study.

29 The histopathological alterations should be depicted with abbreviations using arrows in the photomicrographs. Refer to any good manuscript.

30. The photomicrographs are not of good quality; they need to be changed.

## DISCUSSION

31. The discussion needs to be corrected, and many other references should be used to discuss, as only one reference (Ukwubile et al., 2020) has been mentioned throughout the text. The discussion has not been drafted well. Go through some good papers and revise the entire discussion.

**Overall, the manuscript needs major revision and then can be accepted for publication.**