



REVIEWER'S REPORT

Manuscript No.: IJAR-50692

Date: 18-03-2025

Title: Effect of steaming on the phytochemical composition and nutritional value of *Senna occidentalis* (coffee senna).

Recommendation:

- Accept as it is.....**YES**.....
- Accept after minor revision.....
- Accept after major revision
- Do not accept (*Reasons below*)

Rating	Excel.	Good	Fair	Poor
Originality	√			
Techn. Quality		√		
Clarity		√		
Significance			√	

Reviewer's Name: Tahir Ahmad

Reviewer's Decision about Paper: **Recommended for Publication.**

Comments (*Use additional pages, if required*)

Reviewer's Comment / Report

Introduction

The manuscript presents a well-structured introduction, effectively emphasizing the significance of traditional medicinal plant processing and the role of heating in modifying bioactive compounds. The discussion on various traditional processing techniques, such as infusion and fermentation, provides a strong background for the study. The literature review is well-supported with references to prior studies on the impact of heat treatment on phytochemical stability and bioavailability. The introduction successfully establishes the rationale for investigating the effects of steaming on *Senna occidentalis*, particularly in the context of its use in northern Nigeria.

Methodology

The methodology is clearly presented, with the selection of cold maceration and liquid-liquid extraction methods aligning with the study's objectives. Standard methods for phytochemical and proximate analyses ensure reliability and reproducibility of results. The choice of steaming as the processing method is appropriate, given its relevance to traditional preparation techniques. The description of experimental procedures is concise yet sufficiently detailed to allow for replication.

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Results and Discussion

The results are well-documented, demonstrating the effect of steaming on the nutritional and phytochemical composition of *Senna occidentalis*. The observed increase in moisture content and crude fat, alongside the reduction in crude protein, fiber, ash, and carbohydrate content, is logically presented and aligned with known effects of heat treatment on plant materials. The discussion on the impact of steaming on phytochemical compounds is insightful, particularly the noted decrease in phenols while other phytochemicals increased. The manuscript successfully integrates findings with existing literature, reinforcing the significance of thermal processing on bioactive compounds.

Conclusion

The conclusion succinctly summarizes the study's findings, emphasizing the implications of steaming on the nutrient profile and phytochemical composition of *Senna occidentalis*. The discussion on optimizing processing techniques to retain the plant's nutritional and medicinal value is well-articulated.

Abstract and Keywords

The abstract effectively encapsulates the study's aims, methodology, results, and conclusions. The keywords are appropriately selected to reflect the core themes of the research.

Overall, the manuscript presents a well-organized and scientifically sound investigation into the effects of steaming on *Senna occidentalis*. The findings contribute valuable insights into traditional processing methods and their impact on the plant's medicinal and nutritional properties.