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REVIEWER'S REPORT

Manuscript No.:IJAR-58801

Title: Unveiling Antioxidant Activity of Native Fruits and Vegetables: An Experimental Approach.

Recommendation:
Accept after minor revision.

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

Reviewer's ID: JPR-237

Detailed Reviewer's Report

Interesting and relevant topic comparative information on the antioxidant potential of several edible and medicinal plant resources. However, the manuscript requires some revision in methods statistical analysis, antioxidant activity, correlation of phenolic compound with antioxidant property, and concluded findings before it can be considered for publication. The authors should establish statistical significance and relationships between TPC, phytochemical composition, and different antioxidant assays.

Some suggestive points should be addressed :

A. The authors should clearly explain the novelty and significance of the present study in comparison with previously published reports on the antioxidant activities of the selected plant species. Several of the investigated plants are already well known for their antioxidant properties.

B. The extraction procedure should be described in sufficient detail, including the solvent used, sample-to-solvent ratio, extraction time, temperature, number of extraction cycles, concentration of the final extract, and storage conditions.

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C. *Details regarding botanical identification and authentication of the plant materials should be provided. Voucher specimen numbers and the source/location of collection should also be mentioned.*

D. *The results of the different antioxidant assays should be presented in appropriate units. In particular, the expression of FRAP activity as a percentage requires clarification. The authors should specify the reference standard and calculation method used for each assay.*

E. *The manuscript should clearly describe the statistical methods used. The number of experimental replicates, presentation as mean ± SD/SEM, statistical tests, post-hoc analysis, and significance level should be provided. Differences among plant samples should be statistically validated rather than based only on numerical values.*

F. *Wherever applicable, IC_{50} values should be calculated and reported for radical-scavenging assays. This would provide a more meaningful comparison of antioxidant potency among the investigated plant samples*

G. *The study reports the highest total phenolic content in Terminalia chebula, whereas Ziziphus jujuba showed the highest DPPH activity. The authors should discuss this apparent difference and, preferably, perform correlation analysis between total phenolic content and the antioxidant assays.*

H. *The conclusion suggests that phenolic and flavonoid compounds may contribute to the observed antioxidant activity; however, flavonoid content is not presented in the abstract. The authors should either provide supporting data for flavonoid content or modify this statement accordingly.*

I. *The antioxidant standards used for comparison should be clearly mentioned for each assay. Appropriate standards such as ascorbic*

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acid or Trolox should be considered where applicable.

J. *The discussion should provide a stronger scientific explanation for the differences observed among plant species. Possible contributions of phenolic compounds, flavonoids, tannins, vitamin C, anthocyanins, and other phytochemicals should be discussed with appropriate references.*

K. *The authors should avoid overinterpreting the results. Antioxidant activity demonstrated through chemical in-vitro assays does not necessarily establish therapeutic efficacy in animals or humans. Statements regarding pharmaceutical and nutraceutical applications should therefore be presented as potential applications requiring further validation.*

L. *Identification and quantification of individual bioactive compounds using techniques such as HPLC, LC-MS/MS, or GC-MS would substantially strengthen the study. If such analysis was beyond the scope of the present work, this should be acknowledged as a limitation and suggested for future research.*