

# Review of: "Antimicrobial Sensitivity of Plant Extracts of *Acacia arabica*, *Prosopis juliflora*, *Abutilon indicum*, and *Bryonia laciniata* on *Staphylococcus aureus*, *Pseudomonas aeruginosa*, and *Escherichia coli*"

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Potential competing interests: No potential competing interests to declare.

Dear Editor

This paper “**"Antimicrobial Sensitivity of Plant Extracts of *Acacia arabica*, *Prosopis juliflora*, *Abutilon indicum*, and *Bryonia laciniata* on *Staphylococcus aureus*, *Pseudomonas aeruginosa*, and *Escherichia coli*"**” is well-structured and provides a clear contribution to the field of antimicrobial agents. The study's strengths lie in its rigorous methodology, comprehensive analysis, and relevance to current scientific and medical challenges. However, future research should focus on identifying the specific phytochemicals responsible for the antimicrobial activity and testing these compounds in clinical settings to fully understand their potential. The study's findings are a valuable addition to the ongoing exploration of natural alternatives to conventional antibiotics.

## Overall Evaluation of this Paper:

**1. Relevance and Contribution to Scientific Knowledge:** The study addresses an important area of research, focusing on the antimicrobial properties of plant extracts. With the growing concern over antibiotic resistance, exploring plant-based alternatives is crucial. This research contributes to the field by identifying the antimicrobial potential of specific plants against common pathogenic bacteria.

**2. Methodology:** The study employs a well-established method for assessing antimicrobial activity, using the Zone of Inhibition (ZOI) as a measure. The methodology is clearly described, allowing for replication and validation of results. The selection of three different bacterial strains, including both Gram-positive and Gram-negative bacteria, provides a comprehensive assessment of the extracts' efficacy.

**3. Analysis and Discussion:** The discussion section effectively interprets the findings, comparing them with previous studies. It highlights the varying susceptibility of different bacterial strains to the plant extracts, attributing these differences to the structural characteristics of Gram-positive and Gram-negative bacteria. The discussion also acknowledges the need for further phytochemical analysis to identify the active components responsible for the observed antimicrobial effects.

**4. Strength of Results:** The results are promising, demonstrating significant antimicrobial activity of the tested plant

extracts. The study provides quantitative data on the effectiveness of the extracts, though it also notes some limitations, such as the lower activity of certain extracts against specific bacteria. The consistent use of controls (ethanol and water) strengthens the validity of the results.

**5. Conclusions and Recommendations:** The conclusions are well-supported by the data, suggesting that the studied plant extracts have potential as antimicrobial agents. The study emphasizes the importance of further research to isolate and identify the active compounds within these extracts. Additionally, it suggests the potential for developing plant-based drugs, underscoring the relevance of these findings to both medicine and ethnopharmacology.