

Review of: "A Systematic Review of Antibiotic Use in Humans in Nigeria and Its Potential Contribution to Rising Antimicrobial Resistance"

Preetha Prasanna¹

¹ Amrita Institute of Medical Sciences and Research Centre

Potential competing interests: No potential competing interests to declare.

1. General Remarks:

- The topic of antimicrobial resistance (AMR) addressed in this manuscript is highly relevant and timely, given the growing global threat posed by AMR. The authors should be commended for focusing on this critical issue, as it requires significant attention and continued research.
- I appreciate that the authors have conducted a systematic review and meta-analysis, following the PRISMA guidelines. However, several key components of PRISMA appear to be missing, which need to be addressed to strengthen the manuscript.

2. PRISMA Guidelines:

- The following elements from the PRISMA checklist are missing or inadequately covered:
 1. Study risk of bias
 2. Synthesis methods
 3. Reporting bias assessment
 4. Certainty assessment
 5. Risk of bias in studies
 6. Results of syntheses
 7. Reporting bias
 8. Certainty of evidence
- **Recommendation:** The inclusion of these components is crucial for enhancing the validity and reliability of the study findings. I recommend revising the manuscript to incorporate these aspects.

3. Statistical Analysis:

- **Forest Plot:** It is recommended that a forest plot be included in the meta-analysis section. This visual tool is commonly used to illustrate the overall effect size and heterogeneity across studies, which would provide a clearer and more comprehensive understanding of the data.

5. Specific Section Comments:

Introduction - Third Paragraph:

- *Comment:* It is not relevant to discuss barriers to accessing antibiotics within this context. The focus should remain on the factors directly contributing to antimicrobial resistance (AMR) rather than diverging into barriers that, although important, do not align with the primary objectives of the manuscript. The authors should consider omitting this discussion to maintain a clear and focused narrative.

Methods - Figure 1:

- *Comment:* The inclusion of Figure 1, which details the classes of antibiotics introduced or approved from 1935 to 2012, does not seem particularly relevant to the manuscript's objectives. The information presented is outdated and does not contribute to any new findings or insights. Moreover, it is unlikely to engage readers or add value to the current discussion on antimicrobial resistance. The authors should either provide a strong justification for including this figure or consider removing it to maintain the manuscript's focus and relevance.

Results - Figure 3:

- *Comment:* In Figure 3, the numerics appear to use commas. The authors should clarify whether the use of commas is intentional or if it was an error. Additionally, the diagram accompanying Figure 3 lacks justification for its inclusion. The authors should explain the relevance of this figure to the study's findings and its role in supporting the manuscript's overall narrative.

Discussion - One Health Concept:

- *Comment:* Towards the end of the second paragraph in the discussion section, the mention of the One Health concept and antibiotic misuse in animal populations is not referenced, which is a significant oversight. Furthermore, this discussion does not align well with the primary focus of the manuscript. The authors should either provide appropriate references and clearly link this concept to the topic under discussion or consider revising this section to ensure consistency and relevance.

Figure 4:

- *Comment:* Figure 4 is not referenced anywhere in the text, and there is no explanation provided within the manuscript to clarify its purpose or relevance. This figure should either be properly cited and integrated into the manuscript's discussion, or it should be removed entirely to avoid confusion.

Tables - Analysis of Study Papers and Subgroup Analysis:

- *Comment:* The manuscript appears to lack a table summarizing the analysis of the study papers and subgroup analysis, which is a significant drawback. Including such a table would greatly enhance the clarity and accessibility of the data presented, allowing readers to better understand the scope and depth of the research. The absence of this

table is a major limitation that should be addressed to strengthen the manuscript.

Reference – Reference no 6 and reference no 7:

- *Comment:* Please remove outdated references.

6. Conclusion:

- While the manuscript is well-structured and addresses a critical issue in global health, several key areas need to be improved for it to reach its full potential. Addressing the gaps in the PRISMA guidelines, providing clearer justifications for figures, and ensuring comprehensive coverage of the drivers of irrational antibiotic use are essential steps toward enhancing the manuscript.
- I recommend that the authors revise and resubmit the manuscript after addressing the comments outlined above, particularly focusing on enhancing the methodological rigor and ensuring all sections are relevant and well-supported