

Review of: "Thermal Stress and Dengue Fever: Exploring the Correlation between Elevated Temperatures and Heat Waves in Disease Dynamics"

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Potential competing interests: No potential competing interests to declare.

Thermal Stress and Dengue Fever: Exploring the Correlation between Elevated Temperatures and Heat Waves in Disease Dynamics

This manuscript covers an important topic, as the intersection of climate change and vector-borne diseases like dengue fever is a critical public health issue. The authors have provided a substantial review of literature regarding the dynamics of dengue transmission and the impact of heatwaves, offering valuable context on this relationship. However, the topic of the influence of climate change, specifically heat waves and elevated temperatures, on vector-borne diseases like dengue fever has been extensively explored in the existing literature. Your manuscript largely reiterates findings and conclusions from prior studies without providing new insights or a fresh perspective. Also, it does not engage deeply with potential conflicting findings or gaps in the literature. The manuscript does not include a detailed methodological framework that would allow for the reproducibility or validation of the findings. The conclusions drawn in the manuscript are often too generalized and do not follow directly from the data or discussions presented. As the manuscript has several major limitations that prevent its acceptance in its current form, below, I offer detailed feedback on how to improve the manuscript and suggestions for revision:

1. Introduce a more novel perspective or incorporate underexplored factors that add to the current understanding of the relationship between heat waves and dengue fever. This could include new data, case studies, or emerging trends that have not been covered extensively in previous literature.
2. The paper is missing important parts. It should have sections like Background, Methods, and Results/Analysis.
3. Authors need to add a Methods section. This should explain:
 - describe the selection criteria for the literature reviewed
 - provide a clearer structure for how the analysis was conducted.
4. Use Proper Terminology and Formatting:
 - "Dengue" should be written as "dengue" in lowercase when used mid-sentence.
 - Ensure that all scientific names of species are italicized for consistency.
5. The overview of the topic is too general. Provide Specific and Real-World Examples:

- The paper would benefit from including real-world examples that illustrate the impact of heat waves on dengue transmission.
 - Specific examples such as notable outbreaks in countries like Brazil, India, or Southeast Asia, along with data on the number of cases, hospitalizations, or fatalities, would provide empirical grounding to the arguments.
6. The part about studies and observations is hard to follow.
- The inclusion of specific case studies, such as notable outbreaks of dengue during heat waves in certain regions, would enhance the empirical grounding of the arguments.
7. Missing references in the section “Public Health implications.” Also, it states that the section explores..... Where is the section???
8. Fragmented Structure: Some sections, such as “High Temperatures and Dengue Virus” and “High Temperatures and Aedes Mosquito Vectors,” could be better integrated. These sections share overlapping content but are treated separately. A more cohesive presentation would reduce redundancy and strengthen the overall argument.
9. The manuscript would benefit from a language review to improve the flow and eliminate repetitive sentences.
10. Consider expanding the discussion of the limitations and uncertainties related to the study of dengue transmission in a warming world.
11. Avoid making broad generalizations in the conclusion without sufficient evidence to support them.

Conclusion:

While the manuscript addresses a significant public health issue, it requires substantial revisions to improve its scientific rigor, structure, and overall contribution to the field. I encourage the authors to thoroughly revise the manuscript according to these recommendations and resubmit after addressing these critical points.