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Peer Review

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

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This review addresses an increasingly important public health topic by examining the relationship between thermal stress, heatwaves, and dengue transmission, integrating perspectives on vector biology, viral dynamics, climate variability, and human behavior. The manuscript is well-organized and provides a broad overview of how elevated temperatures may influence Aedes mosquito ecology, viral replication, and epidemiological patterns, highlighting the relevance of climate change to infectious disease emergence. The inclusion of public health adaptation strategies, early warning systems, and emerging vector control technologies strengthens the translational value of the review. However, the article remains largely narrative and descriptive, with limited critical appraisal or systematic synthesis of the cited literature. Several mechanistic claims regarding temperature effects on mosquito survival and viral transmission would benefit from clearer quantification and discussion of temperature thresholds, non-linear relationships, and confounding environmental factors such as humidity and rainfall. In addition, heterogeneity among epidemiological studies and regional variability are acknowledged but not deeply analyzed. Overall, the review provides a useful introductory synthesis linking climate change and dengue epidemiology, but its scientific impact would be enhanced by stronger analytical depth, clearer evaluation of evidence quality, and inclusion of structured or systematic review methodology.

Declarations

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