



Entomological risk assessment of dengue transmission in two key Kenyan cities



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INTRODUCTION

Emergence and re-emergence of dengue (DEN) is becoming a public health threat in several African countries, including Kenya. Dengue epidemics have been linked to the DEN virus adapting to the local domestic *Aedes aegypti* vectors, as well as unplanned urbanisation. Entomological indices provide a good assessment of the risk of disease epidemics, but such data on the vector in major cities in Kenya are lacking despite the regional disease re-emergence; hence, an investigation is a priority.

METHODS

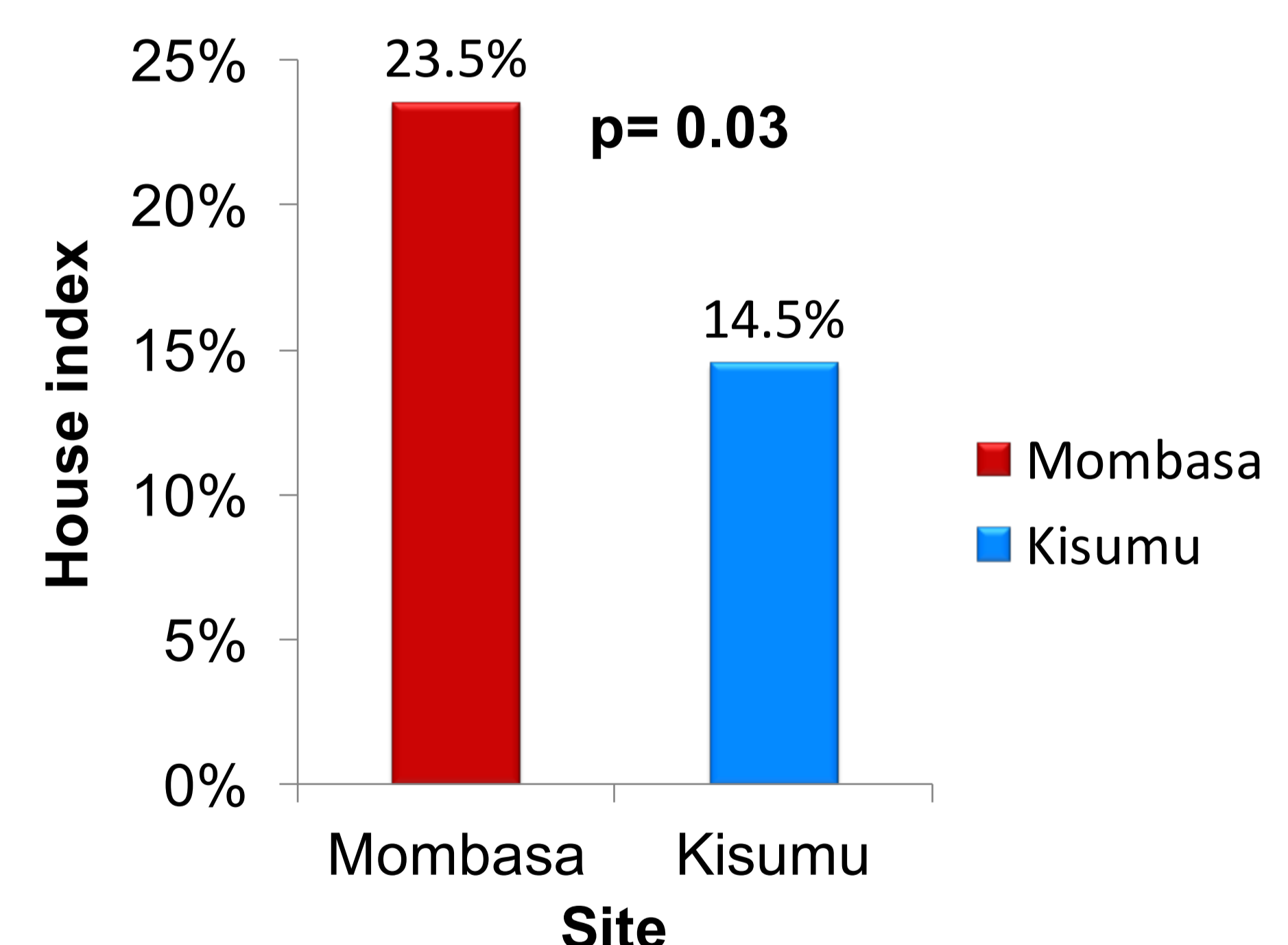
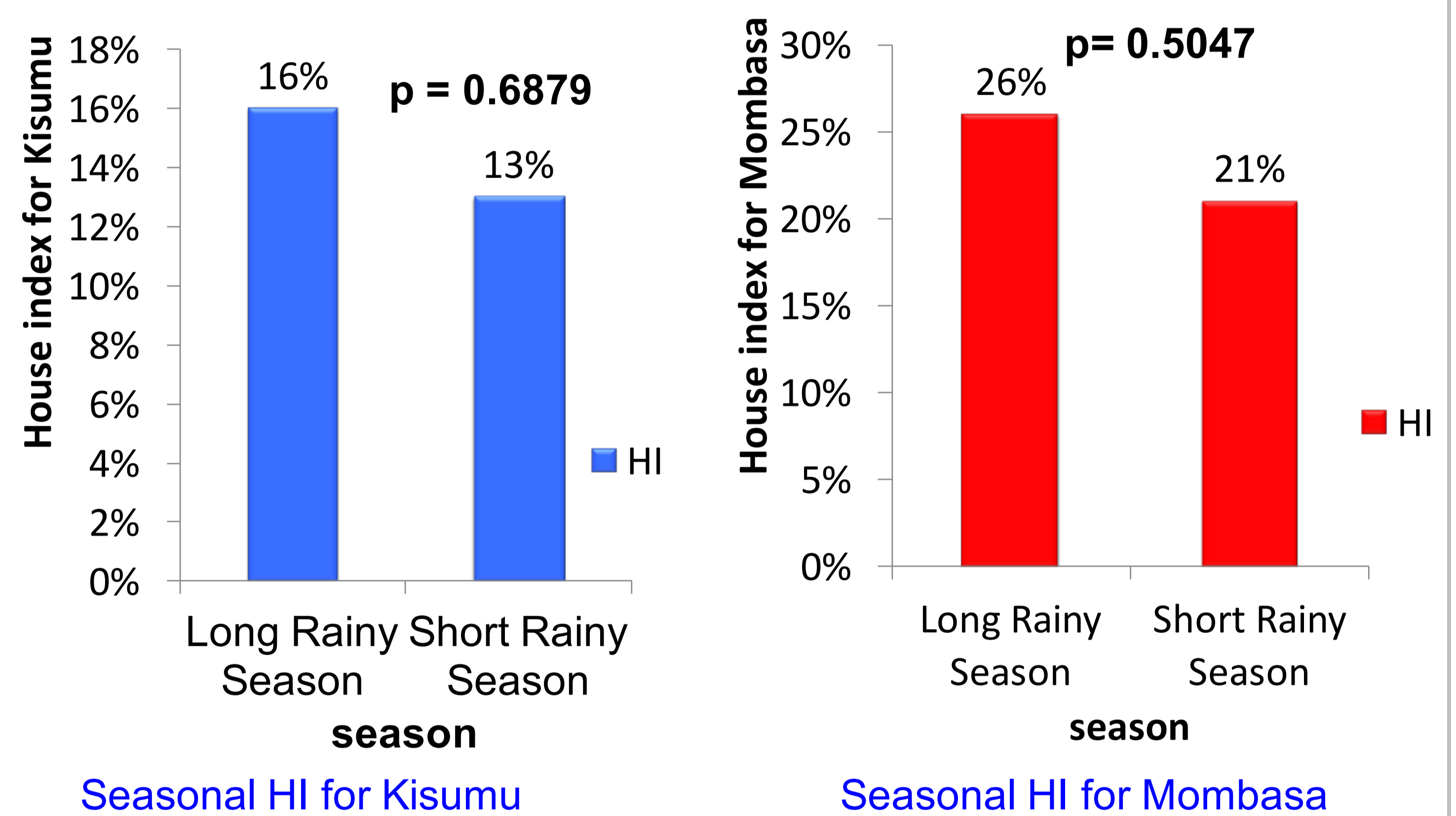


OBJECTIVE

To estimate the house index (HI) for the DEN vector *Aedes aegypti* in two urban cities of Kenya (Kisumu and Mombasa).

RESULTS

Out of 200 houses surveyed per site, HI was higher in Mombasa compared to Kisumu ($\chi^2 = 4.69$, $df = 1$, $p = 0.03$). Also, for both sites, HI was higher during the long rainy season compared to the short rainy season, although there was no significant difference.



CONCLUSIONS

- The Pan American Health Organization defines $>5\%$ threshold as indicative of risk of transmission of dengue; and the overall HI for Kisumu was 14.5% and Mombasa 23.5%.
- Extent of precipitation failed to affect the HI.
- Comprehensive risk assessment must include competence of the vector populations.

IMPACT

The study data are required to inform public health authorities about areas at risk of dengue epidemics.

REFERENCES

Pan American Health Organization (2003) Dengue. Available at <http://www.paho.org/english/gov/cd/cd44-14-e.pdf>

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