



Mosquito Bite Reduction and Mortality Decrease through Insecticide-Treated Bed Nets in Urban Nairobi, Kenya: An Analysis of Malaria Prevention Strategies,

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Abstract

Mosquito-borne diseases, particularly malaria, remain a significant public health concern in urban areas of Kenya. Urbanization and population growth have led to increased exposure to vector-borne pathogens. A cross-sectional study was conducted using data from health records and ITN distribution logs. The study period covered a one-year period ending in . There was a statistically significant reduction in malaria-related deaths by 45% (95% CI: 38-52%) among urban residents who used ITNs compared to those who did not. Insecticide-treated bed nets effectively reduce mosquito bites and associated mortality rates, highlighting their critical role in malaria prevention efforts. Continued distribution of insecticide-treated bed nets alongside other preventive measures is recommended for sustained impact on urban malaria control. Treatment effect was estimated with $\text{logit}(\pi) = \beta_0 + \beta_1 X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *African, Geographic, Insecticide-Treated Bed Nets, Mortality Reduction, Public Health, Spatial Analysis, Vector Control*

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