

Impact of construction of social housing units on malaria vector abundance on Bioko Island, Equatorial Guinea.

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Construction of massive infrastructures that are often associated with urbanization has profound implications on malaria epidemiology and vector control in Africa. In 2017, the government of Equatorial Guinea created new districts on Bioko Island and embarked on the construction of social housing units in these districts. This study evaluated the impact of the construction of the social housing units on vector abundance on Bioko Island. Mosquitoes breeding habitats at the construction sites of 13 new districts were monitored during the construction phase on a weekly basis. Data were captured on the physical characteristics of each breeding habitat, as well as the larval and pupal forms of mosquitoes. Out of the 13 constructions sites in each of the 13 districts, nine construction sites were intervened with the application of a microbial larvicide, *Bacillus thuringiensis israelensis* (VectoBac GR). Two sites in two districts served as controls without the application of the larvicide. Adult mosquitoes were collected using human landing catches in the surrounding communities at both the intervention and control communities. The proportion of breeding habitats with mosquito pupae in the intervention sites dropped from 30% at baseline to an average of 3% after six months of treatment while that of the control sites increased from 0% to an average of 25.8%. A total of 1,651 mosquitoes were collected during this period. 66% were *Anopheles spp*, 20% *Culex spp* and 14% *Aedes spp*. *Anopheles* man biting rates reduced from 5 bites per person per night at baseline in the intervention communities to an average of 2 bites per person per night while that of the control communities increased from zero to an average of 5 bites per person per night. The construction of housing units which led to the increase in vector densities at the surrounding communities was significantly reduced by the application of larvicide. Larval source management as a complementary intervention is necessary at construction sites to reduce vector populations and prevent possible malaria outbreak.