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Investigations on Risk Factors for Malaria in Rufiji District, Tanzania.

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Abstract

Rufiji District is an area with endemic and perennial malaria. The aim of this study was to assess the factors contributing to increased malaria risk in the study area. The factors investigated included; mode of house construction, protection against mosquito bites and human behaviour. Parameters recorded for evaluating the mode of house construction were; type of wall, roofing materials, presence of open eaves between wall and roof and the type of window. Structured questionnaires were used to assess household mosquito avoidance behaviour and utilization of bed nets. Medium scale behavioural surveys were carried out to determine time spent by individuals outdoors during the night. This was then plotted against mean hourly mosquito catches. Generally, house constructed using mud, grass, palm walls, and roofs made of grass/palm thatch, houses with no or open windows and without mosquito gauze and houses with open eaves and low utilization of bed nets (treated and untreated) were common over the entire study area. Of the 2,423 houses walls examined; 90% were constructed using mud, 61%were roofed using grass, 98% had eaves between wall and roof, and 49% had no windows while 45% of windows had no mosquito gauzes. There were highly significant differences ($p < 0.001$) within all the above variables investigated. Only21% of the households used bed nets of which only 7.5% were insecticides treated. There were highly significant differences ($p < 0.0001$) within variables investigated on mosquito avoidance behaviour. Most individuals, both children and adults, remained outdoors up to 22.00 hrs. Environmental factors, poorly constructed houses, low rate of utilization of bed nets and other protective measures, and poverty were identified as risk determinants for malaria in the study area. Intervention measures relevant to the study area are discussed.

Key words

Malaria, Risk, Mosquitoes, Rufiji, Tanzania