

BEHAVIOURAL AND ENVIRONMENTAL HIGHLAND MALARIA RISK

FACTORS ANALYSIS IN NYAMIRA NORTH DISTRICT, NYAMIRA COUNTY

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ABBREVIATIONS AND ACRONYMS

ACT	Artemisin-based Combination Therapy
CDC	Center for Disease Control.
GPS	Global Positioning System
ITN	Insecticide Treated Net.
KBS	Kenya Bureau of statistics.
LLITN's	Long Lasting Insecticide Treated Nets
WHO	World Health Organization.
PCA	Principal Component Analysis
KMD	Kenya Metrological Department
HSSP	Health Sector Strategic Plan
KEMRI	Kenya Medical Research Institute

DEFINITION OF OPERATIONAL TERMS

Bed net use is defined as sleeping under a net each day of the previous week.

Distances from household to swamp, forest, river and roadsides will be divided into four categories <250, 250–500, 500–1000, >1000 m.

Tea, maize, trees and bushes will be classified as present if located within 200 m of the structure where the participants sleep.

Exposure to channeled swamp water will be defined as participants who lived within 250 m of a swamp and reported channeling swamp water.

Geographic slope will be categorized into four classes; flat land, gentle slope, medium slope, and steep slope.

A model illustration will be used to determine if there are no trees, few trees, some trees or many trees within 200 m of the house.

ABSTRACT

Malaria is caused by protozoan parasites of the genus *Plasmodium*. It is one of the leading causes of illness and death and one of the most important causes of human morbidity and mortality with enormous medical, economic and emotional impact in the world. Estimates indicate that there were about 207 million cases of malaria and an estimated 627 million deaths. Nyamira North District lies in the western Kenya highland and is known to be a malaria epidemic area with unstable transmission of varying seasonality. The highest peak of malaria transmission is usually reached between May - July and November-January periods preceding the short and long rain seasons. The current study aims to investigate the correlation between environment and household's knowledge, attitudes and practices with malaria epidemics in Nyamira North District. 890 participants of all ages (all-age cohort) from the study area will be enrolled. Data on environmental, socio-demographic, and economic factors will be collected from 21 villages systematically selected. Environmental data will be collected from Global Positioning System (GPS) measurements. The dwelling in which the participant normally sleep will be assessed and distances to mapped forest edge, swamps, rivers, roads, and health centers will be calculated. Type of vegetation within 200 m of the house will be recorded. The presence and type of slope will also be determined. A questionnaire will be orally administered to ascertain socio-demographic, economic and behavioral characteristics. To establish whether there is any statistical relationship between the mentioned variables and malaria prevalence, Pearson Chi-square test will be used. An association between the two variables will be considered significant if the p value ≤ 0.05 . Data generated by the study will be used by the Ministry of health in future control strategies for highland malaria in Nyamira North district.