



A review of human dog-bite injuries in Kitui South subcounty, Kenya (2017–2021)

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Context

Dog bites continue to be a serious public health issue due to their association with the transmission of rabies virus. In Kenya, there are no studies estimating dog-bite incidence. Annual mortalities resulting from dog-mediated rabies are estimated at 523 (95% confidence interval 134–1100). The main objective of this study was to assess major risk factors associated with dog bites in Kitui South subcounty, Kenya, between 2017 and 2021.

Methods

We recruited 387 dog-bite patients (cases) and 387 non-bite patients (controls) for the case-control study from the Mutomo Mission Hospital and the Ikutha Level 4 Hospital records. Multivariable logistic regression analysis evaluated the association between risk factors and dog-bite cases. In the final model, pairwise interactions among variables were evaluated. The model fit was evaluated using receiver operating characteristics and area under the curve.

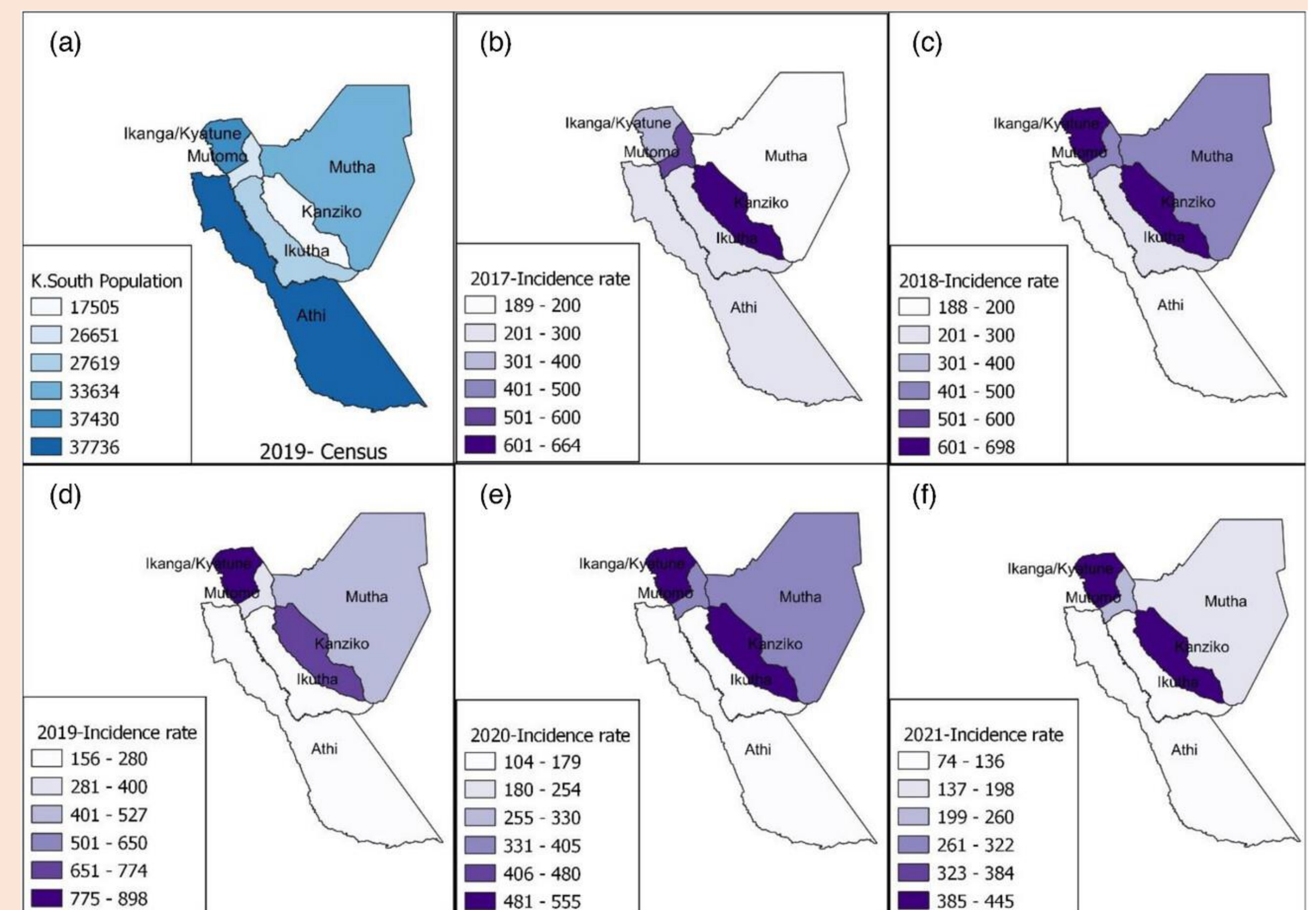
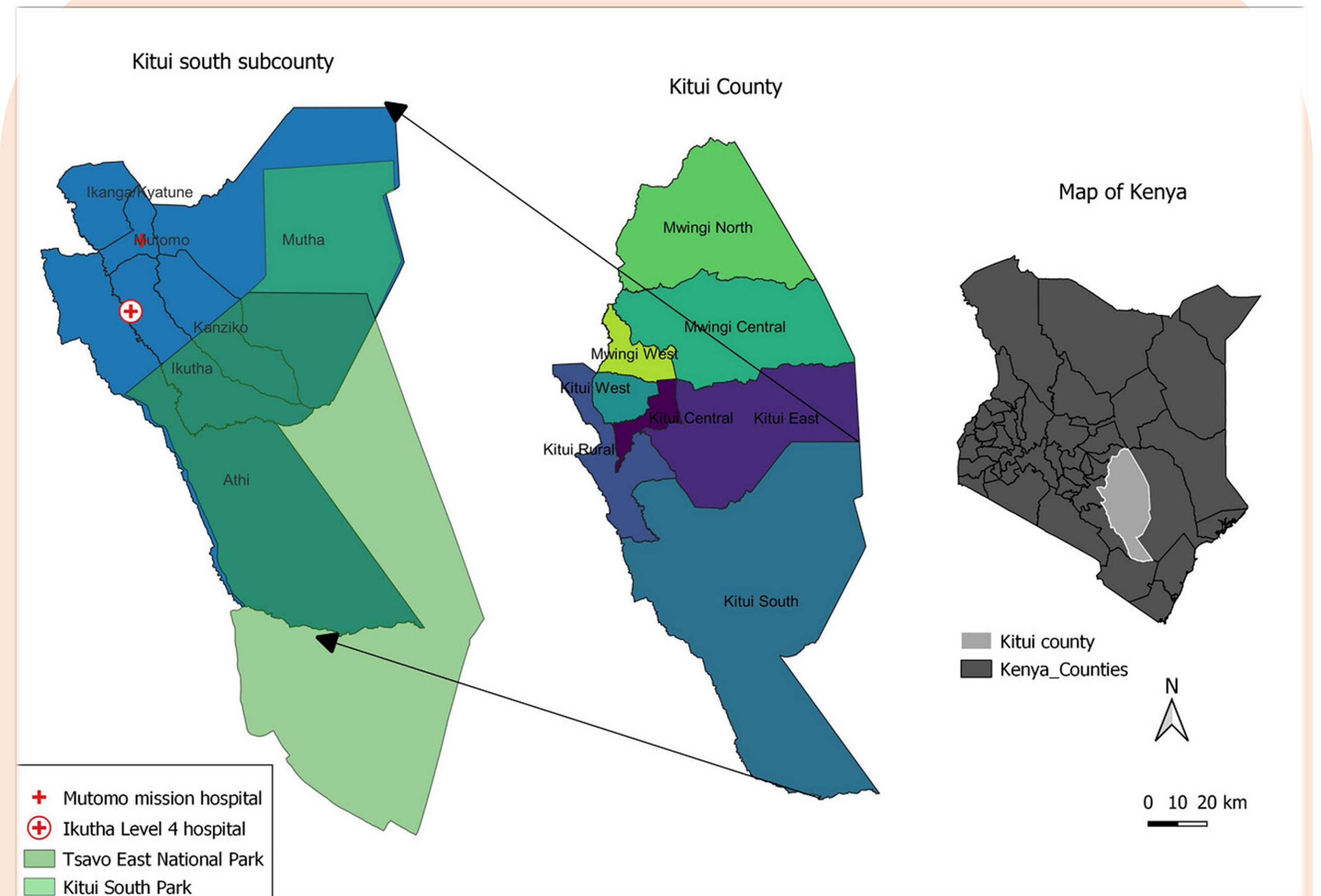
Results

The study found that the dog-bite incidence was highest in Kanziko ward in Kitui South subcounty. Fifty-one percent (108 bites) of dog-bite victims were children under 15 years of age, with 53% (N = 68) being men and 36% (N = 77) being bitten on the limbs. Dog bites mostly (44%, N = 93) occurred between October and December (short rainy season). Age group and season were identified as the most significant variables for high dog-bite incidence in Kitui South subcounty.

These findings are relevant for workforce development by highlighting the need for targeted interventions in high-risk groups, such as children, and during specific seasons.

Conclusions and recommendations

Promotion of responsible dog ownership and reinforcement of dog control policies may prove more effective in reducing dog-bite injuries in Kitui South subcounty.



Variable	Categories	Adjusted Odd ratio	Confidence interval	P value
Age groups	0-15	Base		< 0.001
	16-35	0.34	0.24, 0.50	
	36-55	0.26	0.17, 0.41	
	55+	0.13	0.08, 0.21	
Season	Short rains (October-December)	Base		< 0.001
	Dry and Hot (January- February)	0.31	0.18, 0.53	
	Long rains (March-May)	0.67	0.44, 1.01	
	Dry and Cool (June-September)	0.80	0.54, 1.18	
Hospital	Ikutha Level 4	Base		0.395
	Mutomo Mission	1.15	0.84, 1.57	



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