

Spatial distribution, prevalence and potential risk factors of Tungiasis in Vihiga County, Kenya

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Abstract

Background

Tungiasis is a parasitic disease caused by the sand flea *Tunga penetrans* also known as jigger flea. Communities living in precarious conditions in tropical and sub tropical countries bear the brunt of the infection. The main objective of this study was to determine the burden of Tungiasis in Vihiga County in Kenya.

Methods

This was a cross-sectional study conducted in 21 villages in 3 Sub-locations in Vihiga County, western Kenya. A total of 437 participants, 5 years old and above were clinically examined for the presence of tungiasis after consenting to take part in the study. Diagnosis was made following standard methods. A semi- structured questionnaire was administered to assess socio-demographic factors, housing, presence and ownership of animals, knowledge and practice related to tungiasis. Data were analyzed using bivariate and multivariate regression analysis. GIS was used to map the geographic distribution of tungiasis in the area.

Results

The overall prevalence was found to be (21.5%; 95% CI: 17.7–25.3%). The cases were analysed and visualized in a map form. Multivariate analysis suggested that the occurrence of tungiasis was associated with variables that indicated low economic status (like a monthly income of Ksh \leq 1000 (adjusted odds ratio 27.85; 95% CI: 4.13–187.59), earthen floor (0.36; 0.13–1.024) and lack of toilet facilities (4.27; 0.82–22.34), age of participant \geq 14 (27.414; 10.02–74.99), no regular use of closed footwear (1.98; 0.987–3.97) and common resting place inside the house (1.93; 0.96–3.89).

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See more at:

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