

Jigger Flea (*Tunga penetrans*) Infestations and Use of Soil-Cow Dung-Ash Mixture as a Flea Control Method in Eastern Uganda

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Abstract : Despite several interventions, jigger flea infestations continue to be reported in the Busoga sub-region in Eastern Uganda. The purpose of this study was to identify factors that expose the indigenous people to jigger flea infestations and evaluate the effectiveness of any indigenous materials used in flea control by the affected communities. Flea compositions in residences were described, factors associated with flea infestation and indigenous materials used in flea control were evaluated. Field surveys were conducted in the affected communities after obtaining preliminary information on jigger infestation from the offices of the District Health Inspectors to identify the affected villages and households. Informed consent was then sought from the local authorities and household heads to conduct the study. Focus group discussions were conducted with key district informants, namely, the District Health Inspectors, District Entomologists and representatives from the District Health Office. A GPS coordinate was taken at central point at every household enrolled. Fleas were trapped inside residences using *Kilonzo traps*. A *Kilonzo Trap* comprised a shallow pan, about three centimetres deep, filled to the brim with water. The edges of the pan were smeared with Vaseline to prevent fleas from crawling out. Traps were placed in the evening and checked every morning the following day. The trapped fleas were collected in labelled vials filled with 70% aqueous ethanol and taken to the laboratory for identification. Socio-economic and environmental data were collected. The results indicate that the commonest flea trapped in the residences was the cat flea (*Ctenocephalides felis*) (50%), followed by Jigger flea (*Tunga penetrans*) (46%) and rat flea (*Xenopsylla Cheopis*) (4%), respectively. The average size of residences was seven square metres with a mean of six occupants. The residences were generally untidy; with loose dusty floors and the brick walls were not plastered. The majority of the jigger affected households were headed by peasants (86.7%) and artisans (13.3%). The household heads mainly stopped at primary school level (80%) and few at secondary school level (20%). The jigger affected households were mainly headed by peasants of low socioeconomic status. The affected community members use soil-cow dung-ash mixture to smear floors of residences as the only measure to control fleas. This method was found to be ineffective in controlling the insects. The study recommends that home improvement campaigns be continued in the affected communities to improve sanitation and hygiene in residences as one of the interventions to combat flea infestations. Other cheap, available and effective means should be identified to curb jigger flea infestations.

Keywords : cow dung-soil-ash mixture, infestations, jigger flea, *Tunga penetrans*

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