Prevalence of Jigger Flea (*Tunga Penetrans*) Infestation amongst Age Groups, Male and Female Persons in Jinja District, Eastern Uganda

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Abstract: *Jigger flea infestations are endemic in several rural communities in Uganda. The Eastern part of the country reports outbreaks of jigger infestations. This case study was carried out to identify the most vulnerable sex and age groups to jigger infestation so that appropriate control measures can be recommended. Members of the affected communities in Jinja district were requested to report households that had current cases of jigger infestation. The name, sex and age of the household heads and infected persons were recorded. Details of the persons were then removed from the lists for ethical reasons. A total of 429 persons were reported to be infested with jiggers in nine parishes of five sub-counties in the district. There was a significant difference in jigger infestation in different age groups (p=8E-152, χ2 = 712.79) and between males and females (p=2.88E-8, χ2=30.78). The most infested age group (n, %) was below 15years (269, 62.7%), followed by the elderly people, above 55 years (48, 11.2%) and the least infested age group was 16-25 years (8, 1.9%). Males in each age category were at least twice more infested with jiggers than females. The study recommends that more attention be focused on children, elderly persons and males in jigger control than on females and persons in other age groups.*

Keywords: Age, jigger, infestation, female, male

1. Introduction

Jigger flea infestation, also known as *Tungiasis,*is one of the diseases that affects impoverished communities in the tropical regions and receives considerably less attention compared to other diseases.[1]. *Tungiasis* is caused by the female jigger fleas that burrow into the skin of a person to lay eggs[2]. The insect bulges with eggs to the size of a pea. Penetration of the flea causes wounds, itching and pain. The wounds provide avenue for entry of other secondary pathogens such as tetanus[3], [4]. In severe cases, *Tungiasis* can cause loss of toes and fingers.[1], [5].

Infestation with jiggers is associated with low socioeconomic status of the local community [5], [6]; Poor housing conditions, sanitation, hygiene and negligence perpetuate jigger infestation[7].

Several parts of Uganda are infested by jiggers with the most affected communities occurring in the Eastern part of the country[8]. Jinja is one of the districts in Eastern Uganda affected by jigger infestation and the affected communities comprise typically of peasants involved in subsistence farming [8], [9].

The Government of The Republic of Uganda committed resources to control neglected tropical diseases in the country [10, 11]. However, the interventions are faced with a number of challenges that include inadequacy of funds and human resource. Therefore, this survey sought to identify the most vulnerable persons to jigger infestation so as to prioritize actions[11]. Such knowledge of the most vulnerable persons enables interventions to be targeted in the face of limited resources. Hence the most vulnerable age groups and sex to jigger infestationin Jinja District were identifiedin this study.

2. Materials and Methods

This was a community participatory survey where members of communities in Jinja district were gathered in meetings to identify jigger flea infested households and other health related issues. The Village Health Teams (VHT's) educated members on good sanitation and hygiene practices to prevent jigger infestation.

The meetings were conducted in nine parishes from five sub-counties in Jinja district, namely: Itakaibolu, Bugobya, Nalinaibi, Nabitambala and Kisasi parishes in Busedde sub-county, Budima in Butagaya sub-county, Wanyange in Mafubira sub-county, Butamira in Buyengo sub-county and Kibibi in Budondo sub-county.

Community members were requested to report details of households that had cases of current jigger infestation. For each household reported, details of the persons infested with jiggers were given; The name and occupation of the household head as well as the name, sex, religion, level of education of the affected persons. The names of the persons were later removed during data analyses for ethical reasons. Prevalence of jigger infestation by gender and age categories were presented using pie-chart, bar and line graphs with chi-square (χ^2) statistics used to test significant differences in infestation across the demographic divides at p<0.005, and 95% confidence level.