

ABSTRACT

Tinea capitis (ring worm) is a superficial fungal infection of the scalp and hair of the head. According to World Health Organization (WHO), the prevalence rate of superficial mycotic infection worldwide has been found to be 20-25% and the infection presents a major public health problem in primary school-age children especially those from low and middle income countries like Kenya. *Tinea capitis* inflicts a lot of psychosocial trauma in children due to attached stigma, ulceration and irritation that hampers pupil's concentration and performance in class. Moreover, rural and urban/peri-urban settings in Kenya have varied access to social amenities including clean tap water, schools with poor environmental sanitation and overcrowded classrooms, limited playing grounds and communal barber shops which contribute to *Tinea capitis* disease burden. It is therefore important to look at the distribution in these settings. Additionally, the infection is common in children particularly those of pre-pubertal age. These children are susceptible to dermatophytic infections because of their poor personal hygiene habits and poor environmental sanitation. Many children in developing countries attend public schools which are overcrowded. In Kenya, it is estimated 9.6% primary school going children are infected by *Tinea capitis*, Tanzania 13%, Nigeria 31.2%, Germany 0.1% and London 0.1% children are infected respectively. A significant number of primary school-going children in Kakamega Central Sub-County have observable clinical symptoms suggestive of *Tinea capitis* infection. However, the *Tinea capitis* causing fungal species among these children have not been identified. Fungal agents causing *Tinea capitis* vary in virulence and clinical presentation. In addition, their distribution varies depending on geographical location. This study investigated the etiological agents of *Tinea capitis* and associated risk factors among primary school-going children in Kakamega Central Sub-County. The specific objectives were; to determine the prevalence of *Tinea capitis* among primary school going children in Kakamega Central Sub-County, to characterize the fungal species causing *Tinea capitis* in primary school going children in Kakamega Central Sub-County and to determine the risk factors associated with *Tinea capitis* infection in primary school going children in Kakamega central Sub-County. A cross-sectional study design was used where 375 primary school-going children from four public schools, two rural and two urban primary schools in Kakamega Central Sub-County were sampled from a population of 4611 pupils. The children were examined for fungal agents using microscopy and laboratory culture techniques. This study established a prevalence of 17.4% *Tinea capitis* infection in Kakamega Central Sub-County. The causative species isolated were *T. tonsurans* spp constituting 51.9%, *M. canis* 13.5%, *T. rubrum* 3.8%, *M. audouinii* 5.8%, *A. niger* 5.8%, *T. mentagrophytes* 5.8%, *A. flavus*, *C. glugosa* and *E. floccosum* had 1.9% each while co-infections were reported at 7.7%. Risk factors associated with *Tinea capitis* were found to be age (OR; 2.79, 95% CI; 1.43-5.17, $P=0.002$), number of baths per week (OR; 4.65, 95% CI; 2.03-5.91, $P<0.0001$), sharing of bed (OR; 1.96, 95% CI; 1.27-3.74, $P=0.021$), sharing of combs (OR; 3.82 95% CI; 1.93-6.77, $P<0.0001$) and number of occupants in a bedroom (OR; 6.01, 95% CI; 2.01-8.36, $P<0.0001$). These findings show a high prevalence of *tinea capitis* with *Trichophyton* genus as the most prevalent fungal etiological agent causing *Tinea capitis* among school-going children in Kakamega Central Sub-County and is associated strongly with environmental sanitation and personal hygiene practices. Prophylactic measures on *Trichophyton* genus can significantly reduce *Tinea capitis* burden. The results are useful in advocacy for proper environmental sanitation and personal hygiene practices which may offer solutions to reduce the *Tinea capitis* prevalence in Kakamega Central Sub-County.