ABSTRACT

Background: Intestinal parasites are a major public health problem in the developing world and have attracted increasing levels of interest from health researchers over the past decade. Epidemiology-based studies have shown that the prevalence of intestinal parasites is high and they frequently recur in regions with poor sanitation and inadequate sewerage facilities. In this study, we determined the prevalence of intestinal parasites, their egg intensities per sample, and associated risk factors in an informal settlement.

Methods: This was a cross-sectional study conducted in three randomly selected public primary schools located in the informal settlements of Nakuru town. A total of 248 stool samples were collected from asymptomatic pupils and screened, using the Kato Katz technique, for infections caused by soil-transmitted helminths (STH). A random subset of stool samples (n=96) was also screened by polymerase chain reaction (PCR) to detect intestinal protozoa. Socio-demographic variables were collected using a pre-tested structured questionnaire; these data were analysed to identify risk factors for infection.

Results: The overall prevalence of intestinal parasites was 17.3% (43/248 pupils). The overall prevalence of both STH and intestinal protozoan parasites was 1.2% and 41.7%, respectively. The most commonly diagnosed STH infection was *Trichuris trichiura* (1.2%), followed by hookworms (0.4%) and *Ascaris lumbricoides* (0.4%). The prevalence of intestinal protozoan parasites ranged from 0% to 38.5% and included *Entamoeba histolytica*, *Entamoeba hartmanni*, *Entamoeba dispar*, *Giardia intestinalis*, and *Entamoeba coli*. All infections were light, with an egg intensity <100 for each of the STH infections. The prevalence of multiple infections, including intestinal protozoan parasites, was 5.2% (n=5) and 0.4% (n=1) for STH in the subset samples. Finally, our analysis identified several significant risk factors for intestinal parasitic infections, including goat rearing (p=0.046), living in a home with an earthen floor (p=0.022), the number of rooms in the household (p=0.035), and the source of food (p=0.016).

Conclusion: The low prevalence of intestinal parasites in the informal settlements of Nakuru may be attributed to improvements in hygiene and sanitation, deworming, and general good health practices that are facilitated by the Department of Public Health.

Keywords: Prevalence; informal settlements; intestinal parasites; risk factors; school-children.