Intestinal parasite infections in HIV-1 infected adults attending selected Comprehensive Care Clinics in Nairobi, Kenya

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ABSTRACT

Intestinal parasite infections are a major source of morbidity in tropical countries and may influence the rate of HIV-1 disease progression to AIDS through various modes. Helminth infected people display increased levels of eosinophilia, increased IgE levels, and a Th2 immune bias. Immuno regulation in response to helminth infections may suppress HIV-1 specific CD4+ and CD8+ proliferation and cytokine production. The aim of this study was to determine the prevalence and correlates of intestinal parasites infections among HIV-1 infected individuals attending selected comprehensive care clinics in Nairobi. A cross-sectional study was conducted on HIV-1 infected adults who consented to participate in the study. At enrolment, a thorough clinical examination was done and a questionnaire capturing information on socio-demographic characteristics was administered and data collected from all clients. Stool specimens were collected to determine presence of intestinal parasite infections. A total of 196 adults with HIV-1infection were enrolled at two separate clinics (98 at AMREF Kibera and 98 at Mbagathi District Hospital clinics). Majority (71%) of those enrolled were women with a mean age of 34.1± 8.9 years. About 42.3% of the participants were in the 30-39 years age group. Nearly half of the clients (48.5%) had achieved primary education. Thirty seven (18.9%) had parasitic intestinal infections with 24 (12.2%) having helminth infections only, 8(4.1 %) with protozoal infections only and 5 (2.6 %) having helminth and protozoal co-infections. Parasites were detected among individuals at the following rates: Hookworm infection in 12 (26.1%), *Ascaris lumbricoides* 11(23.9%), *Hymenolepis nana* 6(13%), *Entamoeba histolytica* 5(10.9%), *Schistosoma mansoni* 2(4.3%), *Entamoeba coli 2(*4.3%), *Giardia lamblia* 8.7% (4), and 1(2.2%) in the following: - *Trichuris trichiura,* un identified *Taenia* species, *Endolimax nana* and *Blastocystis hominis.* In a Univariate analysis the factors found to be significantly associated

with helminth infection were age below30 years (O R (3.8 (95% CI 1.7-8.5) P = 0.002) and education below secondary school (O.R 2.4 (95% CI 1.0-5.8) P=0.046). The results of this study demonstrated that HIV-1 infected adults with lower educational status and or younger individuals may be at risk of higher helminth burden. There should be more rigor among clinicians on looking out for intestinal parasites among patients with HiV-1 infection targeting mainly the younger and less educated. There is need to provide health education to the general population on identification, control and treatment of intestinal parasite infections among HIV-1 infected individuals.