PARASITIC INFECTION AMONG HIV/AIDS PATIENTS AT BELA-BELA CLINIC, LIMPOPO PROVINCE, SOUTH AFRICA WITH SPECIAL REFERENCE TO CRYPTOSPORIDIUM

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Abstract. Intestinal parasitic organisms are common pathogens among HIV patients worldwide and have been known to cause severe and life-threatening diarrhea in such subjects. In the present study, the prevalence of Cryptosporidium spp and other intestinal parasites in stool samples from 151 HIV/AIDS patients attending a HIV treatment center in South Africa was determined using standard parasitological methods, as well as molecular methods including PCR and quantitative PCR for confirmation of Cryptosporidium spp. In addition, the loop-mediated isothermal amplification (LAMP) method was evaluated for detection of Cryptosporidium spp in 24 stool samples. Standard parasitological methods indicated that Cryptosporidium spp (26.5%), Entamoeba spp (26.5%) and Giardia lamblia (13%) were the most common protozoan parasites, while Ascaris lumbricoides (8%), Schistosoma mansoni (6%) and Trichuris trichiura (4.6%) were the most commonly found helminths. PCR, quantitative PCR and LAMP methods identified Cryptosporidium spp in 28% (30/106), 35% (53/151) and 58% (14/24) of the stool samples, respectively. Multiple infections (34%) were commonly found in the study population. Females above 45 years had the highest Cryptosporidium prevalence (58%). Prevention measures must be implemented in order to curb the negative impact of Cryptosporidium-causing diarrhea among HIV/AIDS patients in this region as well as other parasitic infections identified in this study.

Keywords: Cryptosporidium, diagnostics, epidemiology, HIV/AIDS, microscopy, PCR, South Africa

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