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## Intestinal parasitic infections in ART naive and on-ART AIDS patients

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**Background:** Intestinal parasitic infections in Human immunodeficiency (HIV) seropositive patients vary with geographical topology and are associated with socioeconomic variables. Present hospital based study was conducted to determine the spectrum of intestinal parasitosis in adult HIV/AIDS (Acquired Immunodeficiency Syndrome) patients in our tertiary care setting.

**Materials and methods:** A total of three hundred and forty two (n=342) individuals were enrolled and were screened for intestinal parasitosis. Of these study population one hundred and forty two (n=142) were adult HIV seropositives and were further subdivided into ART naive (n=80) without diarrhea (CD4+T-cell count >350 cells/µl) and sixty two (n=62) on-ART with diarrhea. The rest two hundred (n=200) were non-HIV individuals comprising of hundred each with diarrhea (n=100) and without diarrhea. Intestinal parasites were identified by using microscopic techniques and Polymerase chain reaction (PCR) assay.

**Results:** A total of one hundred and thirty one (n=131) intestinal parasites could be identified from the study population [HIV seropositive (n=142) and non-HIV (n=200) individuals]. Amongst the intestinal parasites, 64% (84/131) were identified in HIV seropositives and 36% (47/131) in non-HIV individuals (OR=4.7; 95% CI 2.95 to 7.52; p<0.0001. Of these eighty four parasites identified in HIV seropositives (74%, 62/84) were found in patients with diarrhea and (26%, 22/84) without diarrhea (p<0.001). Out of the total parasites identified (n=131), 25% (33/131) were coccidia and microsporidia, that includes *Crystosporidium spp.* (13/131, 9.9%), *Cystoisospora belli* (13/131, 9.9%), *Cyclospora cayetanensis* (3/131, 2.2%), *Enterocytozoon bieneusi* (4/131, 3%), 42% (55/131) were non-coccidian pathogenic and helminthic parasites that includes *Giardia intestinalis* (27/131, 20.6%), *Entamoeba histolytica/Entamoeba dispar* (14/131, 10.6%), *Ascaris lumbricoides* (1/131, 0.7%), *Strongyloides stercoralis* (4/131, 3%), *Hymenolepis nana* (9/131, 6.8%).33% (46/131) other parasites were identified including *Blastocystis hominis* (26/131, 19.8%), *Entamoeba coli* (9/131, 6.8%) and *Endolimax nana* (8/131, 6.1%).The higher frequency of infection as well as multiple parasitic infections were observed at CD4+ T-cell counts of less than 200 cells/µL and was two-fold higher compared to individuals having counts more than 350 cells/µL (p<0.0001).

**Conclusion:** *Cryptosporidium* spp. was significantly higher in HIV/AIDS patients with diarrhea (on-ART) compared to patients without diarrhea (ART naive) (P<0.05). Higher rate of infection with *Cryptosporidium* spp. and *Cystoisospora belli* (p<0.001) was detected among individuals with CD4+ T-cell counts less than 200 cells/µL, besides significant association (p < 0.001) of *Cryptosporidium* spp., *Cystoisospora belli* and *Giardia intestinalis* in HIV patients with diarrhea.

## Biography

Shehla Khalil is working as a PhD student in the Parasitology Division of Department of Microbiology at All India Institute of Medical Sciences, India with title development of rapid method for screening of *Cryptosporidium* spp. in clinical samples. She published 10 research papers in reputed journals.

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