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### SSU- rRNA Gene Analysis of Cryptosporidium spp. in HIV Positive and Negative Patients

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#### Abstract:

Cryptosporidium is an apicomplexan parasite of humans and a wide range of domestic as well as wild animals. An 833-bp fragment of the 18S-rRNA gene was used to identify *Cryptosporidium* spp. recovered from children and adult patients, in human immunodeficiency virus (HIV) positive and negative patients in Iran. Initial identification of cryptosporidiosis was carried out by Ziehl-Neelsen acid-fast staining method of stool samples. The samples, then, were identified specifically by nested PCR, targeting the most polymorphic region of the 18S-rRNA gene. The genotype encountered was detected by restriction endonuclease digestion of the nested-PCR product. Among 17 analyzed isolates, two different genotypes of *Cryptosporidium* were identified: 24% of the isolates belonged to *C. parvum* human genotype, and 76% to the potentially zoonotic species of *C. parvum* bovine genotype. The results of the present study showed that in contrast to HIV negative individuals, HIV positive individuals were more likely to be infected with zoonotic genotypes of the parasite; it was also confirmed the fact that zoonotic transmission of the parasite in Iran was as frequent as the transmission of anthroponotic origin. These outcomes are helpful for researchers to establish the corresponding prevention and treatment measures.

#### Keywords:

SSU-rRNA gene

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