

**ADDIS ABABA UNIVERSITY
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**AN EPIDEMIOLOGIC STUDY OF CRYPTOSPORIDIOSIS AND ITS
POTENTIAL RISK FACTORS IN DIARRHOEIC CALVES AND HIV/AIDS
PATIENTS IN AND AROUND HAWASSA, ETHIOPIA**

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ABSTRACT

Cryptosporidiosis is an important disease in both animals and in immunocompromised individuals especially those with HIV/AIDS. *C. parvum* is the most important zoonotic pathogen, mostly transmitted from calves but other zoonotic *Cryptosporidium spp.* like *C. meleagridis*, *C. felis*, *C. canis*, *C. muris*, *C. suis* can also be found to be important opportunistic infection in HIV/AIDS patients. The epidemiology of cryptosporidiosis in humans is not well understood due to the existence of multiple transmission pathways such as person-to-person, animal-to-person, waterborne, food-borne, and possible airborne transmission, which limits the implementation approaches like prevention, and control of the disease. In this study, the prevalence and potential risk factors of cryptosporidiosis in calves and HIV/AIDS patients were determined. The results of this study indicated that the prevalence of cryptosporidiosis among HIV/AIDS patients attending Hawassa Referral Hospital for gastro-intestinal illness with diarrhoea was 43.9% by modified acid-fast staining procedure. Among the positive samples for *Cryptosporidium spp.*, *C. felis* and *C. canis* were found to be 3% and 1% respectively based on oocyst sizes while; other *Cryptosporidium* oocysts were undifferentiated because of similarities in oocyst sizes. The presence of diarrheic calves and animal contacts were significantly associated ($p < 0.05$) with human cryptosporidiosis. Other factors like education, sex, water sources and the presence of diarrheic individuals at homes were not ($p > 0.05$). Among the 62 individuals with direct contacts with diarrheic calves, the calves were found to be risk factors (OR= 5.227). The prevalence of cryptosporidiosis due to *C. parvum* in sampled diarrheic calves of age less than six months was 39.4%. Chi square test were done to see if there is association between risk factors and ELISA result. Results showed that housing, water source, feeding, animal wastes disposal and production systems were significantly associated ($p < 0.05$) with calf cryptosporidiosis due to *C. parvum*. Based on this study results, contacts with cattle and diarrheic calves were identified as the most important risk factors for cryptosporidiosis in HIV/AIDS individuals.

Key words: Cryptosporidiosis, *Cryptosporidium*, Calves, HIV/AIDS individuals

