

## **PREVALENCE AND IDENTIFICATION OF *CRYPTOSPORIDIUM* SPECIES IN PAEDIATRIC DIARRHOEIC PATIENTS**

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*Cryptosporidium* species are an important cause of diarrhoea in developing countries. *C. parvum* and *C. hominis* infect humans and the severity of *Cryptosporidium* infection depends on the immune status of the host. There is a dearth of information of the potential risk factors on acquiring *Cryptosporidium* oocysts and the circulating *Cryptosporidium* spp. in Sri Lanka. Thus, the current study was carried out to determine the prevalence of *Cryptosporidium* infection in children with diarrhoea and identify risk factors associated with transmission. PCR was used to identify the *Cryptosporidium* species in infected children. A total of 138 diarrhoeic faecal samples were collected between August 2011 and February 2013, from children under 12 years of age, admitted to Paediatric units of Teaching Hospitals Kandy and Peradeniya, Sirimavo Bandaranaike Childrens' Hospital Peradeniya and District General Hospital Matale. Hundred faecal samples (n=100) were collected from age and sex matched healthy children from the same units. All control and test faecal samples were screened for the presence of *Cryptosporidium* oocysts with Modified Ziehl-Neelsen (MZN) method and the PCR was performed using *C. parvum* specific primers. Prevalence of *Cryptosporidium* infection among diarrhoeic children was 5.7%. There was no significant age difference between infected and non-infected children. However, all the positive cases were below 3 years of age. The majority (7/8) of the positive cases had watery diarrhoea while none of the healthy children excreted *Cryptosporidium* oocysts in the faeces. There was a significant association for *Cryptosporidium* positivity and contact with goats. A large proportion of positive cases used pipe borne municipal water, however a majority (66.6%) of positive cases did not consume boiled cooled water. Of the eight patients with *Cryptosporidium* oocysts in the diarrhoeal stools one was positive for *C. parvum*. This suggests that the other 7 diarrhoeal cases with positive *Cryptosporidium* oocysts may be due to other *Cryptosporidium* species. In conclusion, our study suggested that *Cryptosporidium* is one of the aetiological agents responsible for childhood watery diarrhoea in Sri Lanka and thus stressing the importance of stool examination for *Cryptosporidium* oocysts for the prompt diagnosis. This study recommends boiling water as an important preventive measure to prevent the transmission of *Cryptosporidium* oocysts. Furthermore, rearing goats appeared to be an important risk factor for acquiring *Cryptosporidium* infection. Molecular studies like restriction fragment length polymorphism and DNA sequencing are needed to determine the other species of *Cryptosporidium* responsible for cryptosporidiosis in children in Sri Lanka.

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