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Title of thesis:-

ASSESSMENT OF CRYPTOSPORIDIUM PARVUM USING IMMUNOFLUORESCENT ANTIBODY TEST AND ENZYME LINKED IMMUNOSORBANT ASSAY AMONG IMMUNOCOMPROMIZED CHILDREN.

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ABSTRACT

The incidence of *cryptosporidium* infection among immunocompetent patients from developing countries is 6.1% while ranging from 9% to 48% in immunocompromized patients in developing countries in Africa and Asia. It is crucial to find effective and practical methods for diagnosis of *Cryptosporidium* infection. Most of previous studies comparing different techniques in diagnosis have conflicting results. The present study is an attempt to evaluate direct microscopy, modified ZN stain, DFA and antigen detection ELISA in stool of immunocompromized and control children with diarrhea to find out the best practical tool for the diagnosis of cryptosporidiosis and to study the possible risk factors associated with infection.

The present work was carried on 300 children (200 immunocompromized child in the case group and another 100 as control with the same socioeconomic conditions). Data sheet and stool sample were collected from each subject, stool samples were subjected to direct smear and concentration techniques, staining with modified ZN stain, DFA testing and antigen detection ELISA.

The present study shows that wet mount has very low sensitivity 17.5 %. After concentration and modified ZN stain, the sensitivity increased to reach 55.2%. Antigen detection ELISA has sensitivity between 85 % and specificity of about 98.5 %. DFA was taken as gold standard for comparison based on recommendations from previous studies. After examination of DFA positive samples by staining 4 – 5 slides the sensitivity of the test increased to reach 78 %.

The study showed that the prevalence of cryptosporidiosis is 11 % by ZN stain, 15.5 % by ELISA and 17 % by DFA test among IC children and 6, 11 and 11.5 % respectively among control group.

Key words: *cryptosporidium* – ELISA – DFA- ZN stain – immunocompromized.