

Prevalence of Intestinal Parasitic Infection among School Children in Nepal

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Intestinal parasitosis is endemic in least developed and developing countries including Nepal and is responsible for different types of morbidity and mortality. The objective of the study is to find out the prevalence of intestinal parasitic infection among school children in different districts of Nepal. We carried out a cross-sectional descriptive study of intestinal parasitosis in school children of four districts of Nepal in 2012. A total of 359 school children (boys: 166 and girls: 193) aged 5-16 of Gorkha (Aruchanaute and Aruarbang VDCs) (n=97), Gulmi (Turang and Balithum VDCs) (n=90), Nuwakot (Halde-Kalika VDC) (n=97) and Rupandehi (Padsari VDC) (n=75) were included. Stool samples collected in clean, dry, screw capped plastic container were mixed with 10% formal saline and transported to SICOST laboratory and examined by formal-ether concentration technique. A total of 33.4% (120/359) children were positive for at least one type parasitic infection (boys: 33.1%; girls: 33.6%). Marginally high prevalence was observed in Gorkha (40.2%) followed by Gulmi (33.3%) and others. Altogether 9 types of parasites were detected.

Protozoan infection was more common (19.8%) followed by helminth infection (16.4%) and mixed infection (2.8%). Among thehelminthes, *Trichuris trichiura* (49.1%) was more common followed by *Ascaris lumricoids* (28.8%) and other whereas among the protozoa *Giardia lamblia* (26.8%) was commonest followed by *Entamoeba coli* (15.5%) and others. Present findings indicated that intestinal parasitosis in Nepal still remains a challenge despite nationwide deworming program together with vitamin A and suggests an effective implementation of sanitation and safe drinking water programs together with basic hygiene practice among school children in these areas.

Parasites can get into the intestine by going through the mouth from uncooked or unwashed food, contaminated water or hands, or by skin contact with larva infected soil, they can also be transferred by the sexual act of anilingus in some cases. When the organisms are swallowed, they move into the intestine, where they can reproduce and cause symptoms. Children are particularly susceptible if they are not thoroughly cleaned after coming into contact with infected soil that is present in environments that they may frequently visit such as sandboxes and school playgrounds. People in developing countries are also at particular risk due to drinking water from sources that may be contaminated with parasites that colonize the gastrointestinal tract.

Good hygiene is necessary to avoid reinfection. The Rockefeller Foundation's hookworm campaign in Mexico in the 1920s was extremely effective at eliminating hookworm from humans with the use of antihelminthics. However, preventative measures were not adequately introduced to the people that were treated. Therefore, the rate of reinfection was extremely high and the project evaluated through any sort of scientific method was a marked failure. More education was needed to inform the people of the importance of wearing shoes, using latrines (better access to sanitation), and good hygiene.

Drugs are frequently used to kill parasites in the host. In earlier times, turpentine was often used for this, but modern drugs do not poison intestinal worms directly. Rather, antihelminthic drugs now inhibit an enzyme that is necessary for the worm to make the substance that prevents the worm from being digested. Due to the wide variety of intestinal parasites, a description of the symptoms rarely is sufficient for diagnosis. Instead, two common tests are used: stool samples may be collected to search for the parasites, and an adhesive may be applied to the anus in order to search for eggs.

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