PREVALENCE OF INTESTINAL PARASITES IN SCHOOL GOING CHILDREN IN A RURAL COMMUNITY

Atul Aher*[1] Sanjeev Kulkarni

1. Dept. of Microbiology, Peoples College of Medical College & Research Centre , Bhopal, MP, India
2. Dept. of Microbiology, Rural Medical College, Loni - 413713 Dist: Ahmednagar. MS, India

***Corresponding Author:** atulaher@hotmail.com

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ABSTRACT:

Infection caused by intestinal parasites is still a common health problem in a poor-hygiene population of rural area especially for children in developing countries. A cross-sectional study was conducted among school going children to determine the current status of intestinal parasitic infections in a rural community of Western Maharashtra. The study was drawn from schools in and around Loni in Ahmednagar district of Maharashtra. Present study showed the prevalence of 30.4% intestinal parasitic infection in children. The most common parasite was *Giardia lamblia* (13.5%) followed by *Hymenolepis nana* (4.5%)

Keywords: Intestinal parasites; school children; rural; stool examination

1. INTRODUCTION:

Parasitic intestinal infections continue to be an important cause of morbidity and mortality in the developing world.[1] The intestinal parasites are among the most common infections of school age children in developing countries.[2] As a result of this morbidity, they are at risk of detrimental effects like poor cognitive performance and physical growth.[3] Efforts to control parasitic infections in developing countries typically focus on periodic anti-helminthic treatments targeted at specific risk groups, *eg*, schoolchildren. Nevertheless, re-infection in endemic areas is continuous.[4] The purpose of this study was to find out the prevalence of the intestinal parasitic infection of school going students of rural community.

2. MATERIALS & METHODS:

The study included 624 children of age group 6-12 years going to various schools of the villages in and around Loni in Ahmednagar district of. Stool samples of these children were collected in clean, wide mouthed container during a period of six months. Children suffering from diarrhea were excluded. The stool samples were examined by standard parasitological examination which included saline and iodine preparation. They were observed under low and high power fields of microscope. Macroscopic examination of stool was done for presence of mucus, blood or any parasites.

3. RESULT :

The present study showed that out of 624 children 190 students had some kind of parasite in the stool (**Table 1**). So the prevalence of intestinal parasite was 30.4%. Table 2 shows that *Giardia lamblia* was the commonest parasite (13.5%) prevalent in school children followed by *Hymenolepis nana* (4.5%).

Other common parasites were *Entamoeba histolytica* (3.9%), *Entamoeba coli* (1.9%), *Ascaris lumbricoides* (1.9%) and *Blastocystis hominis* (1.6%). The less common parasites found were *Iodamoeba butschlii*, *Ancylostoma duodenale*, *Taenia species* and *Strongyloides stercoralis*. (**Table 2**)

4. DISCUSSION:

In the present study, the prevalence of intestinal parasites among children (6-12 years) was found to be 30.4%. Studies carried out in various parts of India have reported a prevalence of intestinal parasites from 30 to 50 % among school going children. [5,6] Bora *et al* [7] also found prevalence of 31.5% in school children. In our study *Giardia lamblia* was the commonest protozoa found in the stool (13.5%). *G. lamblia* was also commonest protozoa found in other Indian studies.[6,8] Hymenolepis nana was the commonest parasite found in children among the Helminth group (4.5%). This is in contrast to other studies were *Ascaris lumbricoides* was the commonest helminth [7,9] In present study round worm infection was present in 1.9% of the children. *H. nana* was found in 2-3% of the children in the other studies. [6,9] The variations in prevalence of infection in different studies could be attributed to the time of study and geographical differences in the area. Also, direct microscopic examination method used for detection of parasites has lower sensitivity. It was the only feasible method to examine the stool samples in present community based study. We didn't use concentration methods for stool examination like formal-ether concentration technique which may have increased the prevalence rate. It was shown that the prevalence of intestinal parasites in children may raise upto 50% using this technique. [10,11] Enterobius vermicularis infection is also commonly found in children. But it can be detected by using Scotch-tape technique and not merely by routine stool examination. Kang S et al [12] found *E. vermicularis* in 7.9% of children in their study.

SUMMARY:

Judging by the rates of parasitic infection in many studies of school children, it seems that prevention and control measures should be implemented both in the schools and at the community level. Chemotherapy can effectively eliminate the parasites. Improvement in habitation, sanitation, access to health services, and appropriate available health infrastructure are also important factors for decreasing the prevalence of parasitic infections, despite a de-worming program.

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Table 1: Prevalence of intestinal parasitic infection in children or rural area

Result	Number	Percentage
Positive	190	30.4%
Negative	434	69.6%
Total	624	100%

Table 2: Prevalence of each parasite in children

S. N.	Type of parasite	Number (n=624)	Percentage
	PROTOZOA		
1.	*Giardia lamblia*	84	13.5%
2.	*Entamoeba histolytica*	24	3.9%
3.	*Entamoeba coli*	12	1.9%
4.	*Blastocystis hominis*	10	1.6%
5.	*Iodamoeba butschlii*	06	0.9%
	HELMINTH		
6.	*Hymenolepis nana*	28	4.5%
7.	*Ascaris lumbricoides*	12	1.9%
8.	*Ancylostoma duodenale*	06	0.9%
9.	*Taenia species*	04	0.6%
10.	*Strongyloides stercoralis*	04	0.6%
	Total	190	30.4%