

A Prevalence Study of Intestinal Parasitic Infections in a Rural Hospital

M.S. Davane^{1*}, N.M. Suryawanshi², K.D. Deshpande³

^{1, 2, 3} Resident, Department of Microbiology, MIMSR Medical College, Latur (MS) INDIA.

*Corresponding Author

milinddoctor@rediffmail.com

Research Article

Abstract: Survey on prevalence of various intestinal parasitic infections is prerequisite to obtain an accurate understanding of burden of cases of intestinal parasitic infections in particular area. The aim of present study was to determine the prevalence of intestinal parasitic infections among all age group of people in Latur district, India. **Material and Method:** A total of 211 stool samples were collected from all age groups and examined by routine naked eye and microscopic examination. **Results:** 14(6.63%) stool samples showed presence of ova/cysts of protozoa or helminths. Protozoal cysts or trophozoites were found in 3(32.4%) while helminthic eggs were found in 11(78.5%) of positive samples. **Conclusion:** The prevalence is very low as compared to other studies. These findings suggest that there is increased awareness of personal hygiene and sanitary practices among people in this area.

Key word: Intestinal parasitic infections

Introduction: Over one quarter of world's population is most likely suffering from some form of intestinal parasitic infections¹. The prevalence of different parasitic diseases depends upon environmental, social and economical factors². It is highly prevalent in developing countries like India. There is paucity of information of prevalence of different intestinal parasitic infections. Poor sanitation, scarcity of portable drinking water and low standard of personal hygiene contributes to rapid spread of these infections³. The prevalence of different intestinal parasitic infections reported by different authors shows wide variations probably due to difference in place time and method used.

The frequency of parasitic infections varies with age and sex of general population. Intestinal parasitic infections are more common in childrens^{4,5}. It affects the nutrition and as a result of morbidity they are at increased risk for detrimental effects like poor cognitive performance and physical growth⁶.

It is then important to know the burden of intestinal parasitic infections in community. So this study was undertaken to know the prevalence of intestinal parasitic infections.

Materials and Methods:

The study was undertaken in Department of Microbiology, MIMSR Medical College and Y C Rural Hospital, Latur district, Maharashtra, India.

A total of 211 stool samples were collected from patients of all age groups. Stool samples were collected in wide mouth containers without preservatives and transported to laboratory within one hour. Naked eye examination and microscopic examination by using Saline and Lugol's iodine preparation has been done directly from stool⁷.

Results:

Out of 211 stool samples, 14(6.63%) were positive for either protozoal or helminthic infections. Protozoal cysts and trophozoites were found in 3(21.4%) while helminthic eggs were found in 11(78.5%) of positive samples. *Ascaris lumbricoides* infection was commonest in helminthic infections accounting for 5(45.4%) followed by *Hymenolepis nana* 4(36.3%) and *Ancylostoma duodenale* 3(27.2%). *Entamoeba histolytica* infection was commonest in protozoal infections constituting 2(66.6%) followed by *Giardia lamblia* 1(33.3%).

The highest prevalence was found in age group 11 to 20 yrs(18.6%) and lowest in age group 51 to 60 yrs (0%).

Table 1: Age wise distribution of intestinal parasitic infections

Age group(yrs)	Positive	Negative	Total	Positive(%)
1-10	1	17	18	5.5
11-20	8	35	43	18.6
21-30	2	66	68	2.9
31-40	1	23	24	4.1
41-50	1	21	22	4.5
51-60	0	21	21	0
>60	1	14	15	6.6

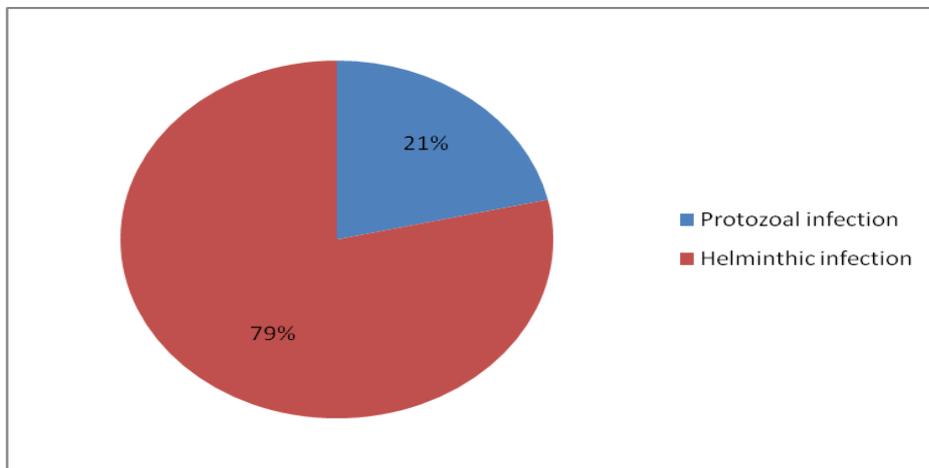
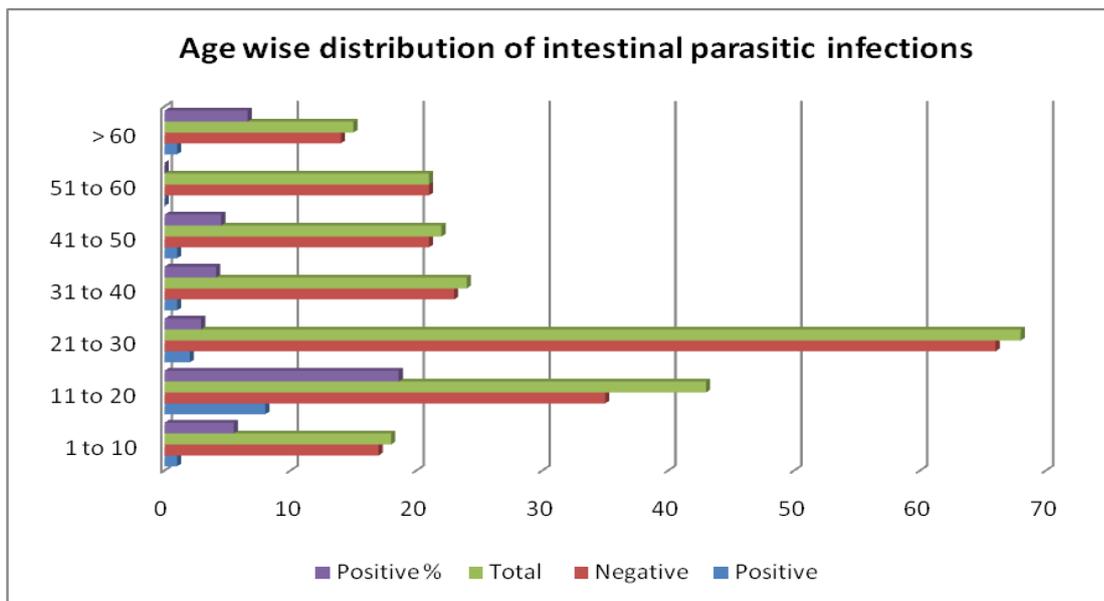


Fig 1: Percentage of intestinal parasitic infections



Discussion:

The present study shows very low prevalence (6.63%) of intestinal parasitic infections. The prevalence reports are unlike other reports from different authors like Hegde G R et al (90.62%)⁸, Patel J C (75%)⁹ and Prakash Tondon (38.1%)¹⁰ which shows high prevalence.

This study shows that there are decreased risk behavioral risk factors for intestinal parasitic infections such as source of unsafe drinking water supply, defecation at open site, no hand washing after defecation, no wearing of footwears.

To conclude, the low prevalence of intestinal parasitic infections suggests that it is due to increased awareness and improvement of sanitary practices, personal hygiene safe drinking water supply, patients early treatment seeking behavior and health education.

Acknowledgment:

The authors are thankful to Dr. Nagoba BS. Assistant Dean (R & D), MIMSR Medical College, Latur. India for guidance and support.

References:

- [1] Abd El Bagi ME, Sammak BM, Mohamed AE, Al Karawi MA, Al Shahed M, Al Thagafi MA. Gastrointestinal parasitic infestation, Eur Radiol 2004; 14: 116-31.
- [2] Reeder MM PP. Infections and infestations of gastrointestinal tract. In: Freeny PC, Stevenson GW, editors, Margulis and Burhenne's Alimentary Tract Roentgenology 1994;888-951
- [3] Celikoz A, Guler N, Guler G, Oztop AY, Degeril S. Prevalence of intestinal parasites in three socioeconomically different regions of Sivas, Turkey. J Health Popul Nutr 2005;23:184-91.
- [4] Eatson A. Intestinal worm impair child health in the Philippines. BMJ 1999;318:214
- [5] Oberhelman RA, Guerrero ES, Fernandes ML, Siho M, Mercado D, Comiskey N, *et al.* Correlations between intestinal parasitosis, physical growth and psychomotor development among infant and children from rural Nicaragua. Am J Trop Med Hyg 1998;58:470-5.
- [6] Nokes C, Grantham SM, Swayer AW, Cooper ES, Bundy DA. Parasitic helminthic infection and cognitive function in schoolchildren. Proceed Roy Soc London B1992;247:77-8
- [7] Proctor EM. Laboratory diagnosis of amoebiasis. Clin Lab Med 1991;11:829-59.
- [8] Hegde GR, Patel JC. Prevalence of intestinal parasitic infestation in rural area. J Postgrad Med 1986;32:225.
- [9] Patel JC. Ten year study of stool samples with particular reference to intestinal parasites. J Postgrad Med 1986;32:219.
- [10] Prakash, O. and Tandon, B. N.: Intestinal parasites with special reference to Entamoeba histolytica complex as revealed by routine concentration and cultural examination of stool samples from patient with gastrointestinal symptoms. Ind. J. Med. Res;54:10-14,1966.