



## Prevalence of Intestinal Parasitic Infection in Children of Slum Area of Dhanbad, Jharkhand

Authors

**Dr Sujeet Kumar Tiwary<sup>1</sup>, Dr Binay Kumar Singh<sup>2\*</sup>, Dr Siyavar Sharan<sup>3</sup>  
Dr Sunil Kumar Sinha<sup>4</sup>, Dr Rajendra Kumar<sup>5</sup>**

<sup>1</sup>Tutor, Microbiology, PMCH, Dhanbad

<sup>2,3</sup>Associate Professor, Microbiology, PMCH, Dhanbad

<sup>4</sup>Assistant Professor, P.S.M, PMCH, Dhanbad

<sup>5</sup>Tutor, Physiology, PMCH, Dhanbad

\*Corresponding Author

**Dr Binay Kumar Singh**

Associate Professor, Microbiology, PMCH, Dhanbad, Jharkhand, India

### Abstract

*The presence of intestinal parasitic infection in slum area children's is indicative of poor educational background, Poor sanitation and unsafe drinking water increases the risk of parasitic infection.*

**Keywords:** Anaemia, parasite, Worm, Trophozoites.

### Introduction

Intestinal parasitic infection is a common health problem in slum areas of dhanbad children. The most common causes of intestinal parasites are through consumption of contaminated water, infected soil and improper hygiene.<sup>[1,2]</sup> Parasites are most commonly causes gastrointestinal infection, such parasite can live anywhere in the body, but most preferably the intestinal wall. Intestinal parasite produce a variety of symptoms in those affected, most of which gastrointestinal complication include diarrhea, nausea, dysentery, abdominalpain, weight loss, and anaemia with general weakness.<sup>[3,4]</sup> this may also cause physical and mental disabilities,<sup>[7,8]</sup> delayed growth in children.<sup>[5,6]</sup> Poor sanitation and unsafe drinking water increases the risk of infestation of intestinal parasite <sup>[8,9]</sup>. This research was aimed at

estimating the prevalence of intestinal parasite and its covers among children from 1-17 years of age in slum areas of dhanbad district.

### Method Sample collection

This study shows the pattern of intestinal parasitic infection among anaemic children of slum areas of dhanbad district. A total of 1209 slum areas children of different age group both male and female (male 753 and 456female) are selected from different slum areas of dhanbad. All stoolsamples are collected and investigated through microscopically and Formalin ether sedimentation method, during 15 Feb 2016 to 14 Feb 2017. All data were analysed with standard statistical procedure. Result were presented in the form of tables& column.

### Sample collection

All Stool samples were examined in the department of Microbiology laboratory at Patliputra Medical Collage and hospital dhanbad Jharkhand. All stool samples were collected in two wide mouths sterilised small Containers. One container was provided with 10% normal saline for its use Formalin ether sedimentation method. The specimen were first examined within one hour of collection.

### Data Collection

All Data were analysed with standard statistical method, Percentage were computed for all variables. Result were presented in the form of table& column.

### Result

To this study shows overall infection percentage of 18.19% of which 9.76% showed mixed infection. All stool samples were microscopically examined and identified *Entamoeba histolytica* was the common (29.54 %) and *Entamoeba coli* was (21.84%), *Giardia lamblia*(21.81%), *Ascaris lumbricoides* (14.54.), *Hymenolepis nana* (8.18%),..The prevalence rate for *Enterobius vermicularis* (6.81%) and *Trichuris trichiura* 5.45%,while *Ancylostoma duodenale* found in4.0% and cases respectively.

### The following Laboratory methods were applied for the stool investigation:

1. Direct stool smear examination in normal saline as well as in Gram's iodine to Identify trophozoites, cyst, eggs and larva.
2. Formalin ether sedimentation method used for stool concentration.

**Table 1** Total Stool samples (Males, Females) positive cases percentage (n=1209)

Gender	Number	Positive cases	Percentage
Male	753	127	10.50
Female	456	93	07.69
Total	1209	220	18.19

**Table 2:** Total Number of positive Stool samples. (Types of intestinal parasite in positive cases N=220)

Parasite.	Positive Cases	Percentage
<i>Entamoeba histolytica.</i>	65	29.54
<i>Entamoeba coli.</i>	48	21.81
<i>Giardia lamblia.</i>	32	14.54
<i>Ascaris lumbricoides</i>	21	9.54
<i>Hymenolepis nana.</i>	18	8.18
<i>Enterobius Vermicularis</i>	15	6.81
<i>Trichuris Trichiura.</i>	12	5.45
<i>Ancylostoma duodenale</i>	09	4.0
Total	220	

**Table 3:** Total positive stool samples. (Mixed infection in children.)

Parasites	No.of Children's	Percentage.
<i>Entamoeba histolytica. With Giardia lamblia.</i>	7	3.18%
E.coli with A. lumbricoides	6	2.72%
E.coli with H nana	5	2.5%
E.coli with H nana and <i>Entamoeba histolytica.</i>	3	1.36%
Total	21	9.76%

### Discussion

In this study, we found *Entamoeba histolytic* dominant was (29.54)% in our finding, *Entamoeba coli* (21.84) was second prevalent in our study , The giardia lamblia was observed in 34 cases, Besides 09 cases of *Ancylostoma duodenale* were detected in children. This study suggests we should improve slum areas children's living conditions, availability of clean drinking water and good environment including give proper knowledge of hand washing after defecation. Our study recommend that measures like public awareness of the hazards of worm infection, personal hygiene, provision of safe drinking water supply and sanitation facility are important for prevention of parasitic diseases.

### Conclusion

The primary focus was to study the high prevalence of Worm infection was found in a significant number of slum areas children of dhanbad district. *Entamoeba histolitica* was the commonest worm infection found in our study. This study suggests to improve slum areas

children living conditions, availability of clean drinking water and good environment including proper knowledge of hand washing after defecation,

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