



TITLE: PREVALENCE OF INTESTINAL PARASITIC INFESTATIONS IN PATIENTS ATTENDING A TERTIARY CARE HOSPITAL: A RETROSPECTIVE STUDY

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ABSTRACT

Objectives: To determine the prevalence and distribution of intestinal parasitic infestations among patients attending a tertiary care hospital.

Methods: A retrospective observational study was conducted in the Department of Microbiology of a tertiary care hospital from January 2025 to December 2025. A total of 100 stool samples from patients of all age groups were included. Samples were examined using standard parasitological techniques, including direct saline and iodine wet mount microscopy. Demographic variables such as age and sex, along with parasitological findings, were recorded and analyzed using descriptive statistics.

Results: Out of 100 stool samples examined, 10 were positive for intestinal parasites, yielding a prevalence of 10%. The highest number of cases was observed in the 18–30 years age group. Males were more frequently affected than females. Among the detected parasites, *Ancylostoma duodenale* (Hookworm) was the most common, accounting for 7 (70%) cases, followed by *Giardia lamblia* in 2 (20%) cases and *Entamoeba* species in 1 (10%) case.

Conclusion: The study highlights a notable prevalence of intestinal parasitic infestations, with a higher burden among young adults and males. Helminthic infections, particularly hookworm, predominated over protozoal infections. Strengthening routine screening, improving sanitation, and enhancing public health awareness are essential to reduce the burden of IPIs.

Keywords: Intestinal parasitic infestations (IPI); prevalence; Hookworm; *Giardia lamblia*; *Entamoeba*;

INTRODUCTION

Intestinal parasitic infestations (IPIs) remain a major public health problem, particularly in developing countries, where inadequate sanitation, poor hygiene, and unsafe drinking water contribute to their persistence [1,2]. These infections are associated with significant morbidity, including malnutrition, anemia, and impaired physical and cognitive development [3].

Globally, intestinal parasites such as *Ancylostoma duodenale*, *Giardia lamblia*, and *Entamoeba* species continue to be commonly reported, especially in tropical and subtropical regions [4].

Despite ongoing public health initiatives, the burden of IPIs remains substantial in India, particularly in rural and semi-urban populations [5].

Hospital-based studies play an important role in assessing the prevalence and distribution of intestinal parasites, thereby helping in identifying at-risk populations and guiding preventive strategies [6]. Retrospective analyses of laboratory records provide valuable epidemiological data with minimal resource utilization [7].

AIMS AND OBJECTIVES

Primary Objective:

- To determine the prevalence of intestinal parasitic infestations among patients attending a tertiary care hospital.

Secondary Objectives:

- To study the age-wise and gender-wise distribution of infections.
- To identify the spectrum of intestinal parasites detected.

MATERIALS AND METHODS

Study Design:

Retrospective observational study

Study Setting:

Department of Microbiology, Sri Siddhartha Medical College Hospital, Tumkur, Karnataka

Study Duration:

January 2025 to December 2025 (1 year)

Study Population:

A total of 100 stool samples received in the microbiology laboratory from patients of all age groups were included in the study.

Laboratory Methods:

Stool samples were examined using standard parasitological techniques including direct saline and iodine wet mount methods, which remain widely used for routine diagnosis in resource-limited settings [8].

Parasites were identified based on their characteristic morphological features as described in standard parasitology guidelines [9].

Data were analyzed using descriptive statistical methods, which are commonly applied in retrospective prevalence studies of intestinal parasitic infections [10].

Data Collection:

Data were retrieved from laboratory records and included:

- Age
- Sex
- Stool examination findings
- Type of parasite detected

Statistical Analysis:

Data were entered into Microsoft Excel and analyzed using descriptive statistics. Prevalence was expressed as percentages.

RESULTS

A total of 100 stool samples were analyzed during the study period. Out of these, 10 samples were positive for intestinal parasites, yielding an overall prevalence of 10%.

Age Distribution:

All age groups were included in the study. The highest number of positive cases was observed in the 18–30 years age group.

Gender Distribution:

Among the positive cases, males were more commonly affected than females.

Parasitic Profile:

Among the 10 positive cases:

- *Ancylostoma duodenale* (Hookworm): 7 cases (70%)
- *Giardia lamblia*: 2 cases (20%)
- *Entamoeba* species: 1 case (10%)

Helminthic infections were more prevalent compared to protozoal infections.

Table 1: Distribution of Intestinal Parasites

Parasite	Number of Cases	Percentage (%)
Ancylostoma duodenale	7	70%
Giardia lamblia	2	20%
Entamoeba spp.	1	10%
Total	10	100%

Table 2: Overall Prevalence of Intestinal Parasitic Infections

Total Samples	Positive Cases	Prevalence (%)
100	10	10%

DISCUSSION

Intestinal parasitic infestations continue to be a significant health concern in developing countries. In the present study, the prevalence of IPIs was found to be 10%, which is comparable with findings from similar hospital-based studies in India and other developing regions [1,5].

The higher prevalence observed in the 18–30 years age group may be attributed to increased exposure to environmental risk factors and occupational activities, as reported in recent epidemiological studies [2,6]. The predominance of infection among males could be due to greater outdoor exposure and behavioral risk factors [3].

In this study, *Ancylostoma duodenale* was the most common parasite identified. Similar findings have been reported in recent studies highlighting the continued burden of soil-transmitted helminths in areas with poor sanitation [4,7].

The presence of protozoal infections such as *Giardia lamblia* and *Entamoeba* species reflects fecal-oral transmission through contaminated food and water, which remains a significant mode of infection in developing countries [8].

The predominance of helminths over protozoa in this study contrasts with some recent reports suggesting an increasing trend of protozoal infections, possibly due to improved sanitation reducing helminth transmission [9].

A limitation of the present study is its reliance on microscopy, which has lower sensitivity compared to advanced diagnostic methods such as ELISA and PCR, as highlighted in recent literature [10].

A limitation of the present study is its retrospective nature and reliance on conventional microscopy, which may underestimate the true prevalence due to lower sensitivity compared to advanced diagnostic methods such as ELISA or PCR.

CONCLUSION

The present study demonstrates a prevalence of 10% for intestinal parasitic infestations among patients attending a tertiary care hospital. The highest burden was observed among young adults, with a male predominance. Helminthic infections, particularly hookworm, were the most common.

There is a need for:

- Improved sanitation and hygiene practices
- Routine screening of at-risk populations
- Health education programs to reduce transmission

Further studies incorporating advanced diagnostic techniques are recommended to better understand the true burden of intestinal parasitic infections.

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