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A Prevalence Study of Intestinal Parastic Infections in Patient Attend to Elajcentre

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Abstract

Among 500 persons referred to laboratories for performing stool examinations samples (51.43%) were male and (48.57%) were female, all this personshad Abdominal pain and Diarrhea and 39% had a blood in their stool Among these numbers, 298 (59.6%) were positive for parasitic infections 90 (30.2%) *Giardia lamblia* and 208 (69.8%) *Entamoeba histolytica* .Also the higher infection rates were recorded in the age 10-19 the infection was (42 % Based on the reliable answers obtained from the interviewed patients or guardians using the pre-formatted questionnaires.The prevalence of intestinal protozoan according to drinking water materials the Plastic and brass have higher infection rate with (50.3%) and (30.2%).

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Introduction

The intestinal parasitic infections in developing countries are considered the main cause of public health problem[1]. The prevalence of intestinal parasitic infection is considerably varied in the different regions of the world. It depends on so many factors such as geographic and socioeconomic factors, relatively humid areas, poverty, malnutrition, personal and community hygiene, high population density, unavailability of potable water, and low health status[2,3]. the study recent studies revealed that around 30% of the total population in the world infected with intestinal parasite[4,5]

The World Health Organization (WHO) estimates that 3.5 billion people worldwide are infested with some type of intestinal parasite, and as many as 450 million of them are sick as a result. Children are most frequently infected with these parasites Intestinal parasitic infections are amongst the most common infections worldwide[6]

Giardia lamblia is one of the most common intestinal pathogenic protozoan parasites, Metronidazole, the common drug of choice, can cause mutagenicity in bacteria [7] and is carcinogenic in rodents [8]. *Entamoeba histolytica* is a major cause of morbidity worldwide, causing approximately 50 million cases of dysentery and 100,000 deaths annually [9,10].Intestinal amoebiasis caused by *E. histolytica* is ranked third after malaria and schistosomiasis on the list of parasitic protozoan infections leading to death[11]. Amoebiasis is the infection of human gastrointestinal tract by *E. histolytica*; a protozoan parasite capable of invading the intestinal mucosa and that may spread to other organs, mainly the liver which usually leads to amoebic liver abscess. This infection remains a significant cause of morbidity and mortality world-wide. Amoebiasis is a rare occurrence in developed countries of the world, but only found in travelers, immigrants, homosexuals and institutionalized persons[12].

Materials and Methods

A total of 500 stool samples were collected from patients of all age groups from Elaj center. Stool samples were collected in wide mouth containers without preservatives and transported to laboratory within less than half hour. Macroscopic examination and microscopic examination by using Saline and Lugol's iodine preparation has been done directly from stool.[7] patients were interviewed and asked about pipe material and symptoms.

Time and Location

The present study was achieved on 500patients, including 260males; and 240females, aging more than 1-50 years, and they were attended to the Elajcentreinkhartoum-Sudan, for detection of the trophozoites and cysts of Entamoeba *histolytica and Giardia lamblia*infection. The informative questionnaire form patient was organized for each patient including data such as age, sex, pipe material.

Collection of Stool Samples

The stool samples were collected in sterile containers labeled with names of the patients.

Laboratory Methods

The stool samples were examined macroscopically for appearance, color, and the presence of blood and mucus. Then examined using direct method for the presence of intestinal parasites.

Direct Stool Examination

The fresh stool samples were examined under the microscope using the saline solution by adding a small quantity of the selected fresh stool to one or two drops of normal saline (0.9% NaCl) on the slide with wooden stick and covered with a cover glass.

Data Analysis

The obtained data were presented as means +S.D statistical analysis for all obtained data carried out using Microsoft excel program 2010 and spss version20.

Results

Total Number of Target Clinical Samples

Among 500 persons, 260 samples (52%) were males and 240 (48%) were females, all this person was suffering from abdominal pain and Diarrhea Among these numbers, 298 (59.6%) were positive for parasitic infections 208 (69.8%) *Entamoeba histolytica* and 90 (30.2%) were positive for *Giardia lamblia. Tables 1 to 5.*

Discussion

Intestinal parasite infections are public health problem worldwide, particularly in developing Countries. In other estimation about one quarter of the world's population is infected and about 80% of all deaths annually are due to infectious and parasitic diseases in

Table 1. The prevalence of intestinal parasitic infections among the patients attended to Elaj centre according to gender. (2015)

Gender	No. of examined	DISTRUBUTION %	NUMBER OF INFECTED	INFECTION %
Male	260	52	191	64
Female	240	48	107	36
Total	500	100	298	100

Table 2. The overall prevalence of intestinal parasitic infections among the patients attended to Elaj center (2015)

Parasite species	No. infected	Prevalence (%)
Giardia lamblia	90	18
Entamoeba histolytica	208	41.6
Negative	202	40.4
Total	500	100

P>0.05

Table 3. The prevalence of intestinal parasitic infections among the patients attended to Elajcenter according to age.(2015)

Age group (year)	No	NO OF INFECTED	%
0-9	65	56	18.8
10-19	166	125	42
20-29	94	49	16.4
30-50	88	39	13
>50	47	29	9.8
Total	500	298	100

P>0.05, R= 0.13

Table 4. Frequency of intestinal parasitic infection symptoms and signs among the Patients:

Symptoms*	No	Prevalence (%)
Blood in stool	195	39
Vomiting	123	24.6
Fever	182	36.4
Total	500	100

*All the interviewed patients were had abdominal pain and diarrhea.
P<0.05

Table 5. Prevalence of intestinal parasitic infection according to water pipe materials:

Taps material	No. infected	Prevalence (%)
Brass	90	30.2
Plastic	150	50.3
Nickel	10	3.4
Iron	48	16.1
Total	298	100

P<0.05

developing countries (Faten, 2008)[13]. In the present study, the overall prevalence was298 (59.6%) were positive for parasitic infections,90 (30.2%) *Giardia lamblia* and 208 (69.8%) *Entamoeba histolytica*. which is high percentage and may attribute to the primitive environmental condition of the area in addition to poor quality of life and behavior. Thesituation is similar to different areas in the region, on example way in Ethiopia, Teklu et al (2013)[14] found that overall prevalence of intestinal parasitic infections (single and multiple infections) was 39.9% in a community-based study conducted in area where is located at 505 kms South of Addis Ababa. Also Abdelsafi*etal*[15]2014 found that the overall prevalence of intestinal parasite infections was 64.4% in Elengaz region. The findings of this study indicated that the common intestinal parasites in Eazhari region (Elaj center) children were *Entamoebia histolytica* and *Giardia lamblia*, while Rashid et al (2011) [16]reported the most prevalent intestinal parasites were *Ascaris lumbricoides, Giardialamblia* and *Entamoeba histolytica*. Gashaw et al (2008)[17] found the prevalent intestinal parasites were *A. lumbricoides, S. stercoralis, T. trichiura, hookworm*, and*G. lamblia. Giardia lamblia* was more frequent (33.4%) than other intestinal parasites. Tariq (2010)[18] reported that in children in Thi-Qar, Southern Iraq, the prevalence of *Giardia lamblia*was 23 .7%. These parasites are often associated with contaminated water and food.

Entamoeba histolytica is the main parasitic infection in Elaj area. Also the higher infection rates were recorded in the age 10-19 ,(50.3%) use the Plastic and 30.2% brass pipe Based on the pre-formatted questionnaires.

Conclusion

The prevalence of intestinal parasite infection in Elazhari was high with *Entamoeba histolytica Giardia lamblia*, this finding is similar to all other results in different areas. However a considerable number of cases were remaining subclinical.

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