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OCCURRENCE OF PARASITIC INFECTIONS OF INTESTINES DURING SUMMER

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Abstract:

Objectives: *This research work aimed to find out the occurrence of intestinal infections due to parasites among people who got referrals to Sir Ganga Ram Hospital in the summer of 2018.*

Methodology: *The examination of the samples of stools carried out through direct assessment, concentration of the formalin-ether & staining with the help of Ziehl Nielsen. The culturing of the specimens of stool carried out with the help of nutrient agar plate for the identification of the Strongyloides stercorali.*

Results: *We examined two hundred and five patients in this research work in which 29.750% patients were available with infection due to at least single parasite. The rates of occurrence of was as follows: Blastocystis hominis was present in 20.90% patients, Giardia lamblia was available in 5.360%, Iodamoeba butschelii present in 0.480%, Dientamoeba fragilis was available in 0.480%, Trichomonas hominis was present in 0.480%, Endolimax was the part of 0.970%, Enterobius vermicularis was also present in 0.480% & Taenia was also available in 0.480%.*

Conclusion: *The findings of this research work contained the importance of the infection of Giardia in the children having symptoms. Total 76.740% patients suffering from infection due to Blastocystis were available with the symptoms of intestinal infection. There is requirement of more research to discover the association of the B. hominies & linked symptoms.*

Key Word: *Intestines, symptoms, methodology, parasite, culturing, occurrence, concentration, agar plate, nutrient, identification.*

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INTRODUCTION:

The most important causative agents of the GI (gastro-intestinal) complications like the loss of the body weight, pain in the abdomen cavity, vomiting, and no feeling of hunger, distention of abdomen cavity and also some anomalies related to mental health are parasites [1]. These complications are the serious issues of hygiene especially in the countries which are under development and many developed countries of the world [2]. Majority of the factors as adverse hygienic activities, low social & economic condition, climate change & overcrowding due to over population are the reasons behind the infections because of parasite. Differentiation of the agents of parasites is very vital step for the start of the treatment & hindrance from the spread of this disease. So, suitable conditions of hygiene in the communities & identification of the infections on early stage are much significant.

Various research works conducted in different regions of the world have displayed that in the duration of summer season, the prevalence rate of the infections due to parasites increases because of very high temperature & very high utilization of water from the public places which is totally unsafe with adverse condition of sanitation. So, surveys on large areas are necessary for the management of the control of these infections. The priorities of the research in the countries which are under-development include to the condition of study of the infections of intestines. This research work aimed to find out the rate of prevalence of infections due to parasites in patients who got referrals to the Sir Ganga Ram Hospital, Lahore, Pakistan in the summer season of 2018 to help the professionals of the health care field for the initiating the control and prevention programs for these infections.

METHODOLOGY:

The samples of stools of two hundred and five patients who got referral to Sir Ganga Ram Hospital, Lahore in the season of summer of 2018. We carried out the examination of those samples for the determination of different parasites. We used a well-organized questionnaire to collect the information about the age, gender, the availability of the adverse symptoms of intestinal infection for every patient. We sent these specimens of stools to the laboratory of parasitology for the identification of the species of parasites. We used the direct microscopy was for the identification of the ova of parasites, cysts of protozoa, trophozoite kind of protozoa, particularly trophozoites with motility. In the other step, for the concentration of the sample, the method of concentration of Formalin-ether was in utilization in accordance with the protocol of the Garcia [1].

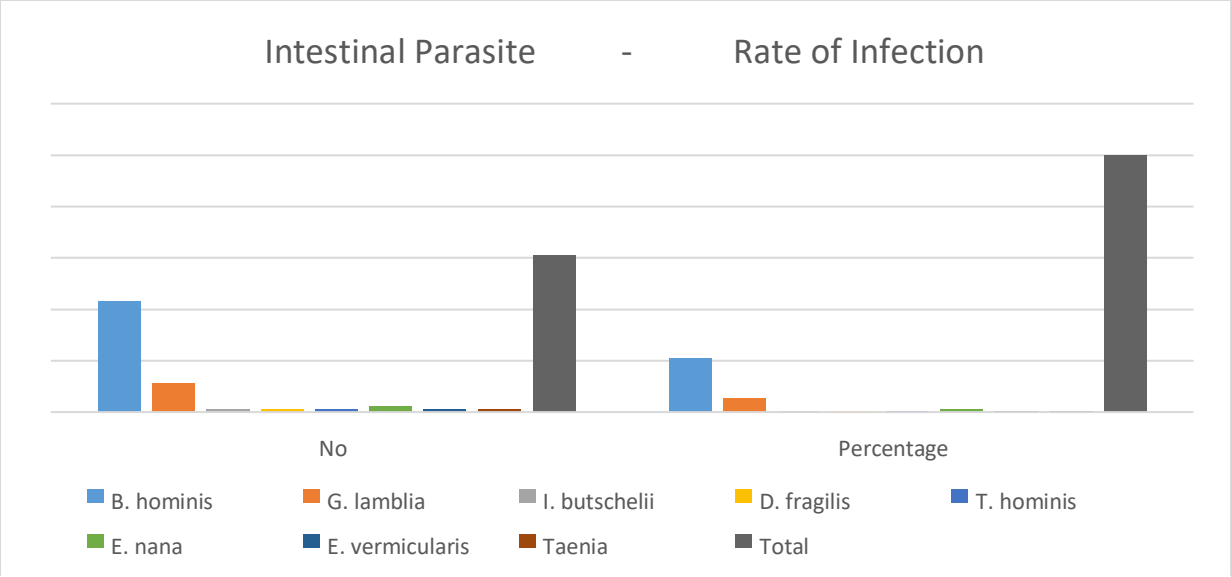
Additionally, staining with the help of Ziehl-Nielsen prepared for the coccidial diagnosis [1]. For the diagnosis of the Strongyloides stercoralis, we placed the four gram sample of stool on the nutrient agar plat's surface and then we sealed the para-film to prevent the contamination in that plate. After twenty eight hours & then for continuous seven days, the scrutiny of the plates carried out for larva or the presence of the adult types of nematodes.

RESULTS:

The examination of two hundred and five samples of stool carried out in this research work. There were total 46.340% (n: 95) male patients & 53.650% (n: 110) female's patients in this research work. Out of total, 20.970% (n: 43) patients were children with lower than twelve year of age & 79.020% (n: 162) were adult patients. A sum of total one hundred and fifty-five persons found with the symptoms of intestinal infection. In accordance with the findings of this research work, 29.750% (n: 61) out of two hundred and five patients were available with the infection from at least one kind of the parasite in the intestine. The presentation of occurrence of the infection with every parasite is available in Table-1.

Table-I: Rate of infection with each intestinal parasite

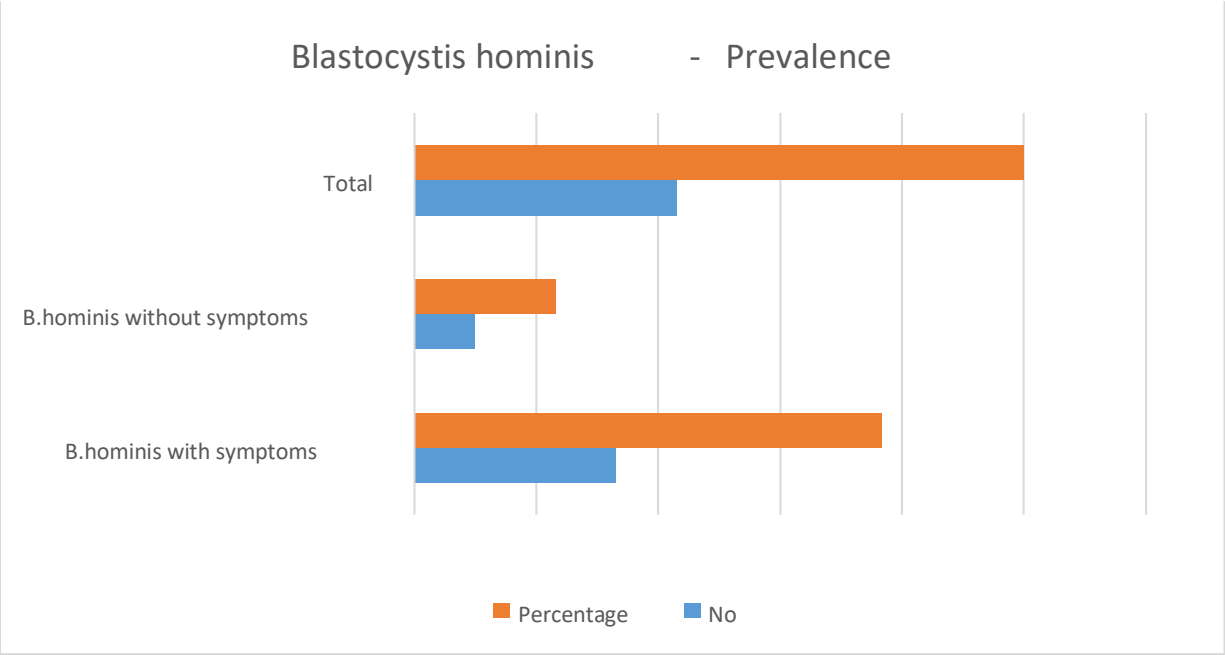
Parasite	No	Percentage
SubjectsB. hominis	43.0	20.970
G. lamblia	11.0	5.360
I. butschelii	1.0	0.480
D. fragilis	1.0	0.480
T. hominis	1.0	0.480
E. nana	2.0	0.970
E. vermicularis	1.0	0.480
Taenia	1.0	0.480
Total	61.0	100.0



Therefore, the parasite which was very prevalent, was B. hominies (20.970%). Among the total forty three patients having infection due to this parasite including eight children & thirty five adults, overall 76.740% (n: 33) patients were available with symptoms of intestinal infection Table-2 particularly pain in the abdomen cavity & diarrhea. The 2nd most common parasite with high prevalence was G. lamblia, all eleven patients were children having less than twelve year of age & also appeared with the complications of intestines.

Table-II: Association of intestinal clinical symptoms in patients infected with B.hominis

Blastocystis hominis	No	Percentage
B.hominis with symptoms	33.0	76.740
B.hominis without symptoms	10.0	23.250
Total	43.0	100.0



DISCUSSION:

In current research work, 29.750% patients were available with the infection of intestines due to parasites. We were unable to find any important association between the infections of intestines due to parasite with the age and sex of the patient. The infections because of protozoa were available as very high in comparison with the infestations due to helminthes. This finding is very much similar with different other research works conducted in various regions of the country which displayed that in current years, the occurrence of the helminthes of intestines experienced important reduction in comparison with the decades of past [2-6]. Indeed, the parasites of both helminthes & protozoa were highly prevalent as observed by Rezaeian in 1986 who discovered 53.80% infectivity due to infection of parasites (18.30% due to helminthes and 45.0% protozoan parasites) among persons referred to one other hospital in the duration from the year of 1980 to the year of 1983 [7].

In the recent research work, all the patients of giardiasis were children. This is similar with the findings of many other research works [1, 2], highlighting the very high occurrence of this parasitic infection among children & its relationship with the complications of intestines in this very young group of age. Also B. hominies was available as the very common type of parasite. In the research work of Yazici conducted in 2007 on fifty eight food workers in one of the hospital of Turkey found the same results [8]. But, in opposition with the current research work of Shahbazi who reported only 1.60% infectivity due to the B.hominis in one of the city of Punjab province, Lahore [5].

This dissimilarity was due to the very small sample size who got selection through various communities of different populations in the research work of Shahbazi carried out in 2016 [5], whereas in the current research work, patients were the referred persons with the presentation of more clinical symptoms. In this research work, in the patients suffering from infection due to B. hominies, 76.74% (n: 33) patients displayed medical symptoms. In this research work of Shazly conducted in 2005 on twenty three patients with medical symptoms, B. hominies was the single causative agent [9]. Additionally, Dogan in the year of 1998 elaborated that all eighty eight patient with B. hominies found with clinical symptoms like the pain of abdomen cavity & deficiency of hunger [10]. But, the collected information about the pathogenicity of B. hominies is a controversial issue in current days [1, 11].

CONCLUSION:

The results of this research work support the part of this pathogen as a reason of the medical symptoms of intestinal infection among people found with infection. The research work in future with a large size of sample particularly samples with this particular infection with no other complication will promote our knowledge about the association of the infections due to B. hominies & associated medical symptoms of the infection.

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