



RESEARCH ARTICLE

Pilot Study on Frequency in Schoolchildren with Parasitism

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Abstract

Introduction: Among infectious diseases, those produced by intestinal parasites are an important health problem for man.

Objective: To characterize intestinal parasitism clinically and epidemiologically in young patients.

Methods: An observational, descriptive and cross-sectional study was carried out in the Clinic 11 of the Finlay Polyclinic with schoolchildren diagnosed with intestinal parasitisms from the Hermanos Montalvo Primary School January-May 2019.

Results: There was a predominance of the male sex with 91%, with the age group most affected being 17 to 22 years for 60.7%. 19.6% of the patients came from primary school. Abdominal pain, followed by diarrhea, were the symptoms most reported by patients for 96.4% and 94.6%, respectively. *Giardia lamblia* was the most identified parasite in the samples with 51.7%, followed by *Enterobius vermicularis* in 28.6%. The majority of patients do not usually wash food before ingestion in 83.9% of the cases studied, and do not practice handwashing previously representing 69.6%.

Conclusions: The highest percentage of sick patients comes from the rural area. Bad hygienic-dietary habits are the main risk factors.

Keywords

Intestinal parasitism, Schoolchildren, Parasites, Frequency

Introduction

Among the infectious diseases, those produced by intestinal parasites are an important health problem for men, mainly in countries with less socioeconomic development. They present high rates of prevalence and wide distribution, and are detected more frequently in the tropical and subtropical regions [1].

Intestinal parasites harm the economic development of nations and are closely linked to poverty and the most disadvantaged social sectors [2].

It is estimated that approximately 3 billion people on a global scale are infected by intestinal parasites, both protozoa and helminths, and that about 1.45 billion correspond to helminths, the most prevalent species worldwide are: *Ascaris lumbricoides*, *Trichuris trichiura*, *Ancylostoma duodenale* and *Necator americanus*. Mortality due to intestinal parasitosis is usually low, however, between 3,000 and 65,000 deaths due to soil-transmitted helminth infections are reported every year, and 100,000 due to amoebiasis [3].

In Cuba there is governmental concern to improve the quality of life of the population, through the execution of multiple strategies and through the Ministry of Public Health, for which the country has managed to improve in a transcendent way the health indicators existing before 1959. A Despite this, several studies suggest the endemism of intestinal parasitism in rural and mountainous areas of the country [4].

Material and Methods

An observational, descriptive and cross-sectional study was conducted in the period from January to May 2019 in the offices near the Hermanos Montalvo Primary School. The study universe was represented by 56 young patients with a clinical and microbiological diagnosis of intestinal parasitosis.

The statistical information was obtained from the records in the charge sheets and medical records of the patients studied and emptied by the authors in a form designed for that purpose.

The variables studied were: Age in years, sex, municipality of origin, referred symptoms, type of parasite identified and risk factors.

The data collected was processed, making a database through the statistical package SPSS for Windows version 11.5. As a summary measure of the information, absolute frequencies and percentages were used.

The ethical rules regarding the confidentiality of the information obtained were respected.

Results

Our results show a greater presence of the male sex for 91%. The most affected age group in the research was between 17 and 22-years-old for 60.7%, followed by patients between 23 and 28-years-old with 32.1%.

The intestinal parasitism predominates in patients from the Primary sector, for 79.6%, abdominal pain was the symptom most referred by patients, found in 54 (96.4%), followed by diarrhea for 94.6%. It is valid to clarify that in the same patient there were more than one of these symptoms.

The most frequent parasite was *Giardia lamblia* in 49 patients for 51.7%, followed by *Enterobius vermicularis* with 28.6% and in third place *Entamoeba histolytica* with 5.4%.

Of the patients studied, 83.9% did not wash the food before ingesting it, 69.6% did not wash their hands, prior to the ingestion of food, while 32.1% had onychophagia or their fingers were sucked.

Discussion

The most effective measure in the prevention of any disease is the elimination of all risk factors and predisposing factors to it. Control over all environmental factors must be maintained. All possible disinfection techniques should be used, especially food, objects or animals with which we interact. Water as a matter is neither created nor destroyed, it is only transformed, it is of great importance therefore it has the knowledge of the ways of treating the drinking water by the population, which will constitute a risk factor to suffer the disease as well as a hygienic measure to prevent intestinal parasitism [2].

From the sanitary hygienic point of view, bacteria, excessive mineralization, high levels of protozoan compounds and other organisms are eliminated. From the aesthetic point of view, the correction of smell, taste and turbidity is pursued. From an economic point of view, we are interested in eliminating corrosively [5].

Water is the natural habitat of many pathogenic species, whose abundance and diversity is determined by the availability of dissolved nutrients, water and food such as vegetables that are related here has great epidemiological importance as a vehicle for biological transmission of some parasitic agents, a high incidence of intestinal parasitism was reported in a study carried

out last year in patients where the administration of unwashed food and improperly treated or improperly purified water is appreciated [5-7].

This study coinciding with others that demonstrated that homes with little or no drinking water service and that are not treated, the inhabitants have greater infection by parasites, together with the lack of health education, total ignorance shown by the representatives of children from the most elementary hygienic measures that must be taken into account.

As much as the hygiene of food as boiling water for daily consumption is very important and that every person should know and be aware that with these measures you win a lot of the battle in the eradication of diseases such as parasitism intestinal.

This is disseminated in countries of the African, American and European continent, observing last year an investigation carried out with a high incidence of intestinal parasitism in patients where the administration of unwashed food and untreated or improperly purified water is appreciated.

If we remember the chain of transmission of different types of intestinal parasites, we perceive how important is the disposition of residuals and the appearance of these diseases, by the contamination of food by vectors such as flies, by the irrigation of vegetables with contaminated water, the ingestion of impurified waters, as well as the contact of the feet with larvae in the soil when laying eggs contained in human excreta [8,9].

References

1. Elba Abril, Cristina Rascón Loreto, Luz Arenas Monreal, Pastor Bonilla Fernández, Héctor Hernández Pérez, et al. (2009) Promoción de hábitos alimentarios saludables en una escuela primaria de Hermosillo, Sonora, México. *Revista de Salud Pública y Nutrición* 10.
2. Black E, Dykes C, Sinclair P, Wells G (1977) Giardiasis in day-care centers: Evidence of person-to-person transmission. *Pediatrics* 60: 486-491.
3. Altamirano F (2017) Factores de riesgo asociados a parasitismo intestinal en niños pre escolares atendidos en el Aclás San Jerónimo. Andahuaylas-2014. Universidad Peruana Cayetano Heredia.
4. Barazarte Y, Quintero M (2001) Profilaxis de la Parasitosis Intestinal en la Escuela Rural. Enfoque Constructivista. Universidad de Andes. Núcleo Universitario "Rafael Rangel".
5. Bourée P (2016) Parasitosis intestinales infantiles. *EMC* 20: 1-10.
6. Brock TD, Madigan MT (2015) *Biología de los microorganismos*. Pearson Educación, Madrid.
7. Buyasyisqui M, Cesani M, Haedo A, Oyhenart E, Garbosa G (2009) Enteroparasitosis y Desnutrición en una población infantil norte argentina.
8. Jiménez J, Vergel K, García M, Vega F, Uscata R, et al. (2011) Parasitosis en niños en edad escolar: Relación con el grado de nutrición y aprendizaje. *Horizonte Médico* 11: 65-69.
9. Leite M, Souza J, Da Paixão R, Aquino M, Soares M (2012) Avaliação da frequência de parasitos intestinais e do estado nutricional em escolares de uma area periurbana de Salvador, Bahia, Brasil. *Revista de Patologia Tropical* 40.