Opinion Article *http://www.alliedacademies.org/parasitic-diseases-diagnosis-therapy/*
ISSN: 2591-7846

Geographic disparities in parasitic infection distribution among Bolivian children.

Marlon Astle*

Editorial Office, Journal of Parasitic Diseases: Diagnosis and Therapy, London, United Kingdom

Abstract

In Latin America, a large percentage of the population suffers from intestinal parasite infections, a neglected tropical illness that is largely untreated. Intestinal parasitism is linked to a variety of different illnesses, however data on the epidemiological picture in Bolivia is limited. The prevalence of various parasites is influenced by environmental factors. The major goal was to learn about the present state of parasitic diseases among children under the age of 12 in different parts of Cochabamba, Bolivia. The laboratory results of four second-line hospitals in various locations, as well as the Tertiary Care Hospital, were examined. The results of stool exams done on children under the age of 12 between 2011 and 2015 were gathered.

Accepted November 17, 2021

INTRODUCTION

Parasitic illnesses are found all over the world, and the emergence of some species is influenced by factors such as temperature, humidity, season, host, and so on. Infections caused by Soil-Transmitted Helminths, for example, are common in tropical settings (STH). According to data accessible in Latin America, 20% of the population has an intestinal parasite infection caused by one, two, or more species. Be a result, they are referred to as "the most prevalent illnesses among poor people in the Americas." Intestinal parasites are more closely linked to morbidity and impairment than to death. Intestinal parasitism is still relevant, according to the World Health Organization, since it is linked to nutritional abnormalities and developmental impairments in very young and school-aged children. Chan Malnutrition, iron deficiency, anaemia, malabsorption syndrome, intestinal obstruction, chronic diarrhoea, rectal prolapse, respiratory problems, and poor weight growth are among disorders linked to parasite infections. Although several protozoa have also been implicated, the most prevalent species linked with these illnesses are directly or indirectly STH.

In Latin America, epidemiological data on STH or protozoan infections is scarce. According to a brief assessment of parasite infection research undertaken by PAHO, STH is prevalent among schools and indigenous communities at rates of 50 percent and higher. The national strategy of control for helminth infections in Bolivia, a country with numerous ecological zones such as the Andean highlands, valleys, and Amazon basin, is confined to children under the age of five, and the epidemiological surveillance system tracks illnesses caused by protozoa. (MSD, undated) There are no studies that analyze the impact of these initiatives on the kid population in either scenario, protozoa or helminths. The Department of Cochabamba is located in the center of Bolivia, with a land area of 55,631 km^2 and a population of 1,758,143 people. It features a variety of natural zones, including low and high valleys, semi-tropical and tropical areas. Depending on the altitude, the climate (temperature, air pressure, and humidity) changes dramatically. The variability of these parameters is critical for observing interactions between the environment and parasite infection frequency, as well as other factors such as socioeconomic determinants in the population. Unfortunately, no official statistics or publications on the link between intestinal parasites and mortality have been identified in Bolivia. According to some estimates from 2006, 36% of fatalities in children under the age of five were caused by enteric infections in general.

Our goal was to explain the distribution of intestinal parasites that affect children under the age of 12 in the Department of Cochabamba by geographical location. This knowledge will enable us to identify vulnerable populations and devise a multi-pronged strategy for parasite infection-prone youngsters. It is an update on the state of intestinal parasites in Bolivia, rather than a contribution to new knowledge, because no recent documentation has been discovered to offer an evaluation of programs or policies, as well as the prospect of strengthening present measures for these. There are a few flaws in our research. Even though we collected a considerable number of samples from various parts of Cochabamba, hospital laboratory findings were the primary source of information. This indicates that the samples were obtained from youngsters who were admitted to hospitals for a specific cause. Second, laboratory records did not specify the rationale for the stool examination; it may have been a regular test or a clinical issue. Third, there is a large representation of children under the age of five, which is explained by the Bolivian public health system's coverage of this age range. Fourth, because the complete third-level data is no longer in the hospital, it is impossible to compare results according to urbanization and the effect of this factor on the prevalence of intestinal parasites, because it is assumed that the children who go to the third-level hospital are mostly those who live in the city's urban or peri-urban areas. Finally, pathogen identification was mostly accomplished by direct observation; methods with better sensitivity, like as Ritchie or ELISA, were not utilized, and it was unable to discriminate between *E. histolytica* and *E. dispar*, the study's major protozoan. More sophisticated investigations are not done in second-line

hospitals due to Bolivia's health system's constraints; as a result, other forms of parasites were not found.

CONCLUSION

We compiled the results of 23,221 tests. The majority of the youngsters were under the age of five. In 31% of the cases, pathogenic parasites were discovered. In all places, the parasites *Entamoeba histolytica* and *Giardia lamblia* were the most common. Helminths were found in 19% of positive samples, with *Ascaris lumbricoides* being the most common. In tropical places where helminths are abundant, parasitic infections are more common. The prevalence of harmful parasites was highly linked with pre-school age children (OR: 5.296; 95% CI: 4.81-5.83) and semi-tropical location (OR: 3.26; 95% CI: 2.90-3.66). In Bolivia, parasitic diseases in youngsters are still relatively common. Protozoan infections remain a big issue, but helminth infections appear to be on the decline. The most susceptible people continue to live in semi-tropical and tropical regions, where the risk of parasite infection is likely to be higher due to poor environmental circumstances. Our findings might lead to a rethinking of more effective parasitic disease management approaches that take regional differences into account.

***Correspondence to:**

Marlon Astle
Editorial Office
Journal of Parasitic Diseases: Diagnosis and Therapy
London
United Kingdom
E-mail: astle_m@gmail.com