

Prevalence of Soil-Transmitted Helminthiasis Among Public School Learners in City of San Fernando, La Union, Philippines

Mark Ericson B. Baladad*, & Josephine V. Culaton-Milan

Department of College of Medical Laboratory Science, LORMA Colleges-Center for Health Sciences

*Corresponding author: Mark Ericson B. Baladad, Department of College of Medical, Laboratory Science, LORMA Colleges-Center for Health Sciences.

Submitted: 27 December 2024 Accepted: 02 January 2025 Published: 06 January 2025

doi <https://doi.org/10.63620/MKJCEPH.2025.1028>

Citation: Baladad, M. E. B., & Culaton-Milan, J. V. (2025). Prevalence of soil-transmitted helminthiasis among public school learners in City of San Fernando, La Union, Philippines. *J of Clini Epi & Public Health* 3(1), 01-03.

Introduction

Soil-Transmitted Helminthiasis (STH) is a group of parasitic infections common in tropical and subtropical countries such as the Philippines. It is estimated that 300 million people in ASEAN countries are infected with intestinal helminths, specifically 126.7 million people infected with *Ascaris lumbricoides*, 115.3 million with *Trichuris trichiura*, and 77.0 million with hookworm species [1].

According to several factors such as widespread poverty, inadequate hygiene and sanitation, illiteracy, and malnutrition are associated with higher risk of contracting STH. This poses a particular health risk to school children in areas with insufficient resources [2].

The prevalence and intensity of *Ascaris* and *Trichuris* are seen greatest in children of five to 14 years old, classifying this age group as the most vulnerable and at significant risk for soil-transmitted helminthiasis [3]. Furthermore, 18.87% of the 5.3 billion people living in endemic areas of STH infection are projected to be school-aged children [4]. Despite being significantly debilitating, infections are typically overlooked and neglected as it tends to be under recorded and are overshadowed by more prominent diseases.

In the Philippines, the Department of Education (DepEd) in coordination with the Department of Health (DOH), through the DepEd order 10 series of 2016, is the government-based agency mandated to conduct preventive and therapeutic interventions on primary school children, including mass deworming campaign, vaccination, feeding programs, and other health education and promotion activities. Particularly, a nationwide school-based mass drug administration (MDA) is implemented biannually, in January and July. This initiative targets pre-elementary and grades 1 to 6 elementary students aged 6–12 years old in all public schools in the country.

The COVID-19 pandemic caused a significant disruption to the routine educational system. Educational institutions were forced to adopt a remote-type of learning modality as social interactions were restricted from 2020 to early 2022. This shift greatly interfered with the conduct of the school-based mass deworming programs as the responsibility has been momentarily transferred to the barangay health units. The compliance and utility by school children however has not been effectively monitored.

According to the World Health Organization, resurgence in STH infections is expected in view of the pandemic. As emphasized by an estimated 370 million children worldwide lost access to the school-based health education programs, which consequently constrained with their health benefits. Moreover, mathematical modelling showed that delays in MDA in high STH prevalence settings may mean that the 2030 target for STH elimination as a public health problem may not be achievable [5, 6].

Objective

The LORMA College of Medical Laboratory Science established a research partnership with the City Schools Division of the Department of Education and the City Health Office of the City of San Fernando, La Union. The study investigated the prevalence of soil-transmitted helminthiasis among public school learners of the City. The study provided an accurate and up-to-date information regarding the status of parasitism among public school learners, fulfilling the previous gap in the health data. Lastly, the results of this study is important for health policy making and implementation [7-9].

Materials and Methods

A quantitative, descriptive, cross-sectional study is utilized for the study. The study covered all the thirty-three (33) public elementary and high schools in the City of San Fernando, La Union, Philippines. The study constitute schools on the city proper, far flung, mountainous, and near the beach. A total of 398

to identify soil-transmitted helminths. The data was treated with the use of prevalence percentage and frequency and percentage formula. Prior the data collection, the researchers sought ethical approval from the LORMA Colleges Research Ethics Committee. Informed and parental consents were secured from all the participants, and permission were also obtained from the school principals and other administrators.

2. Liao, C. W., Fu, C. J., Kao, C. Y., Lee, Y. L., Chen, P. C., Chuang, T. W., ... & Fan, C. K. (2016). Prevalence of intestinal parasitic infections among school children in capital areas of the Democratic Republic of São Tomé and Príncipe, West Africa. *African health sciences*, 16(3), 690-697.
3. Belizario Jr, V. Y., Totañes, F. I. G., de Leon, W. U., Lumampao, Y. F., & Ciro, R. N. T. (2011). Soil-transmitted helminth and other intestinal parasitic infections among school children in indigenous people communities in Davao del Norte, Philippines. *Acta tropica*, 120, S12-S18.
4. Pullan, R. L., & Brooker, S. J. (2012). The global limits and population at risk of soil-transmitted helminth infections in 2010. *Parasites & vectors*, 5, 1-14.
5. Karutu, C., Schultz, L., Waltz, J., Campbell, S. J., Kamara, K., Yotebieng, K., ... & Bundy, D. A. (2022). A coordinated response to the needs of the learner: how deworming and school meals together will contribute to the global recovery from the COVID-19 pandemic. *Frontiers in Tropical Diseases*, 3, 998276.
6. Mationg, M. L. S., Tallo, V. L., Williams, G. M., Gordon, C. A., Clements, A. C., McManus, D. P., & Gray, D. J. (2021). The control of soil-transmitted helminthiasis in the Philippines: the story continues. *Infectious Diseases of Poverty*, 10(1), 85.
7. Anderson, R. M., Truscott, J. E., Pullan, R. L., Brooker, S. J., & Hollingsworth, T. D. (2013). How effective is school-based deworming for the community-wide control of soil-transmitted helminths?. *PLoS neglected tropical diseases*, 7(2), e2027.
8. Department of Education. (2016). DO 10, s. 2016 – Policy and guidelines for the Comprehensive Water, Sanitation and Hygiene in Schools (WinS) Program.
9. World Health Organization. (2021). Ending the neglect to attain the Sustainable Development Goals: A road map for neglected tropical diseases 2021–2030. Geneva: World Health Organization.