

Detection of Intestinal Parasites in Stool Samples from Primary School Children in Ratanakiri Province

Abstract

Mengsroing San¹, Chanpy Sokun¹, Tetvichet Soy¹, Erik Tang¹, Sokunvary Oeung², Visessakseth So³, Sin Chea³, Sophearom Chhea^{1*}

¹ Faculty of Pharmacy, University of Puthisastra, Phnom Penh 12211, Cambodia

² Division of Pharmacognosy, Faculty of Pharmacy, University of Puthisastra, Phnom Penh 12211, Cambodia

³ Academic Affairs, University of Puthisastra, Phnom Penh 12211, Cambodia

Presented at the 5th Pharmacy Research Conference 2025, 4–5 October 2025

Article history

Published: 24 July 2026

Keywords

Intestinal parasites

Stool examination

Primary school children

Giardia lamblia

Cambodia

Editor

Michael Renfrew

Academic editors

Sela Kong

Sornpisey Khut

Abstract

Introduction: Intestinal parasitic infections (IPIs) remain a significant public health concern worldwide, especially in rural tropical and subtropical areas among school-aged children due to contaminated water, poor sanitation, and inadequate hygiene practices. In Cambodia, these infections continue to pose challenges in certain areas, yet data on IPI cases remain limited. Therefore, this study aimed to determine the prevalence of IPIs among primary school students in Ratanakiri Province, Cambodia.

Methods: A cross-sectional study was conducted on January 22, 2025, at a primary school in Ratanakiri province, Cambodia. The target population included 1st and 2nd grade students, typically aged 6-8 years. A total population sampling approach was applied, and fresh stool samples were voluntarily provided by 89 students. All samples were examined on the same day using direct wet mount microscopic stool examination due to its rapid, simple, and cost-effective application for initial screening in field-based, resource-limited settings. Study approval and permission were obtained from school authorities, local administrations, and guardians prior to data collection.

Results: Among the 89 stool samples examined, one sample (1.12%) tested positive for *Giardia lamblia* (2+), while the remaining samples were negative for intestinal parasites.

Conclusion: Although the prevalence observed was low, the detection of *Giardia lamblia* indicates the ongoing threat of IPIs among children in rural Cambodian communities and highlights the continued need for improved sanitation, health education, and surveillance.

Ethics statement: This study is approved by UPRC (UPRC-0725-0014).

Conflicts of interest: There is no conflict of interest to declare.

Acknowledgment: The authors are thankful to the Faculty of Pharmacy, University of Puthisastra for providing laboratory facilities and funds to conduct this research project.

*Corresponding author: Sophearom Chhea, csophearom@puthisastra.edu.kh