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Hookworm infestation is highly prevalent in both underweight and overweight school aged children in rural area: an observation from field study in Thailand

Sora Yasri^{1*}, Viroj Wiwanitkit^{2,3,4}

¹KMT Primary Care Center, Bangkok, Thailand

²Hainan Medical University, Haikou, China

³Faculty of Medicine, University of Nis, Nis, Serbia

⁴Joseph Ayobabalola University, Ikeji-Arakeji, Nigeria

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ABSTRACT

Objective: To report the prevalence of hookworm egg detected in stool examinations of a group of school aged children living in a Thai–Cambodia border area.

Methods: This work is a cross-sectional study performed as a field survey during the rural developmental camp. Basic parasitological study is done.

Results: Of 156 studied stool samples, the hookworm can be seen in 100 samples giving the prevalence rate equal to 64.1%.

Conclusions: Based on the present cross sectional study, it can be seen that the prevalence of hookworm infestation is high in both underweight and overweight school aged children in this area.

1. Introduction

Hookworm infestation is an important public health problem that can be seen around the world. The minute roundworm has hooklet that attaches to the intestinal mucosa and can induce blood loss^[1,2]. Hence, it is accepted as an important cause of tropical anemia^[2–5]. In this short report, the authors report the finding on the prevalence of hookworm egg detected in stool examinations of a group of school aged children living in a Thai–Cambodia border area. Based on the present cross sectional study, it can be seen that the prevalence of hookworm infestation is high in both underweight and overweight school aged children in this area.

2. Materials and methods

This work is a cross-sectional study performed as a field survey during the rural developmental camp. The village is named Ta-ja-ruk in Buriram Province, Thailand. The focused area is a Thai–Cambodia border area, where the high prevalence of nutritional problem is documented^[6]. The stool examinations for hook worm egg determination by standard stool examination technique were performed for overall 156 school aged children in the primary school of the village. For each student, the anthropometric measurement for weight and height was also done.

3. Results

Of 156 studied stool samples, the hookworm can be seen in 100 samples giving the prevalence rate equal to 64.1%.

*Corresponding author: Sora Yasri, KMT Primary Care Center, Bangkok, Thailand.
Tel: 66878923467
E-mail: sorayasri@outlook.co.th

Classified by nutritional status, the prevalence rates of hookworm infestation in underweight ($n=89$), normal ($n=52$) and overweight ($n=15$) group were equal to 71.9% ($n=64$), 50% ($n=26$) and 66.7% ($n=10$), respectively.

4. Discussion

Hookworm infestation is a common problem among school age children. Stephenson *et al.* noted that “hookworm inhibits growth and promotes anemia in preschool (as well as school–age)[2].” Hence, the hookworm is the important disease for clinical nutritionist to manage. Since the detection for hookworm infestation can be easily done by standard stool examination, the stool examination can be useful in field survey for planning of proper antihelminthic administration and infection control program[7–9].

Here, the authors can detect high prevalence of hookworm infestation in the studied setting. Also, it can be seen that the infestation can be seen in the children at any nutritional status. The high prevalence of hookworm infestation in underweight children in this setting is concordant with the previous reports[10–19]. For example, Degarege and Erko reported on “association between intestinal helminth infections and underweight among schoolchildren[10]”. In fact, Papier *et al.* proposed that “poor nutrient intake may increase susceptibility to parasitic diseases and together they negatively affect childhood nutritional status[11].” Nevertheless, it hereby can be seen that the high prevalence can also be seen in the groups without underweight. Here, it can be seen that the hookworm infestation cannot be forgotten in dealing with normal or overweight children.

Conflict of interest statement

We declare that we have no conflict of interest.

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