

## INTESTINAL HELMINTHIC INFECTIONS IN SCHOOL CHILDREN, CIBUBUR, EAST JAKARTA

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### Abstract

An integrated study was conducted on nutrition, physical examination and soil transmitted helminthes (S-TH) in four primary schools in Cibubur, East Jakarta. In this report is shown data on prevalence and intensity of S-TH infections. Very low prevalences were found for *Ascaris lumbricoides* (0.0 – 1.6 %) and *Trichuris trichiura* (2.5 – 8.9 %). Also egg counts per gram (EPG) were very low. The prevalence and intensity rates were very low possibly due to factors such as self-medication, regular health education and efforts of surrounding factories to improve the health of the community.

*Keywords : helminth, schoolchildren, East Jakarta*

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Many parasitic infections are found in poor communities throughout the world, which is related to ecological and social conditions. It is estimated that *Ascaris lumbricoides*, the roundworm is infecting 1.2 billions individuals, whereas about 600 million people are infected with *Trichuris trichiura*, the whipworm<sup>1</sup>.

Studies carried out in several primary schools in Jakarta and other areas of Indonesia found high prevalences of soil-transmitted helminthic (S-TH) infections<sup>2-6</sup>. However, during the last decade a systematic and sustainable effort in controlling S-TH infections in Jakarta was implemented by Yayasan Kusuma Buana (YKB), a private institution, so that in several primary schools in Jakarta prevalences decreased<sup>7</sup>.

The objective of this study was to know the prevalence and intensity of S-Th infections in four primary schools, located in an industrial region, rapidly changing from a rural into an urban area. This survey is part of an integrated effort of several health sectors such as nutrition, hematology, nephrology, public health, pneumonology, endorsed by the clinical pathology and parasitology laboratory, to obtain a profile of the health status of school children. This study only reports on results of examinations of helminthic infections. Results of the other health topics were recorded somewhere else. The results of laboratory examinations on helminthic infections were also provided to teachers and students. Positive cases were suggested to obtain treatment at nearby health facilities. This integrated

effort is one among other health activities in order to improve the health status of school children.

Stool samples were collected from four selected primary schools in Cibubur, an industrial area in East Jakarta. Among a total of 541 students, 329 students submitted samples, which were examined by the modified thick smear Kato-Katz method<sup>8,9</sup>.

The coverage rate was 60.8% (329 samples from a total of 541 students). Coverage rates differed among the four schools, ranging from 51.3%-82.2%. The highest coverage rate could be expected at schools with good cooperation between students, teachers and parents with health personnel. Prevalences for *Ascaris* and *Trichuris* were 1.2% and 4.5% respectively, whereas eggs per gram (EPG) were 66 and 42. No hookworm was found among the samples. In this study the Harada-Mori method, modified by Kosin et al.<sup>10</sup>, for detection of hookworm infections was not used, because several studies in Jakarta during the last years found no more hookworm or it was found in a low percentage, less than 1 %<sup>7</sup>. The ranges of *Ascaris*, *Trichuris* and the total soil-transmitted helminthic infections were 0.0-1.6%, 2.5-8.9% and 2.7-10.0% respectively. *Ascaris* infections were not found at all in one school. Very low prevalences and EPG possibly was due to many factors, such as self-medication with anthelmintics, available on the market, regular health education through multimedia and efforts from the industrial factories to improve the health of the community.

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