Giardiasis and Poor Vitamin A Status among Aboriginal School Children in Rural Malaysia

Hesham M. Al-Mekhlafi*, Johari Surin, Atiya A. Sallam, Ariffin W. Abdullah, and Mohammed A. K. Mahdy
Department of Parasitology, Department of Social and Preventive Medicine, Department of Pediatrics, Faculty of Medicine, University of Malaya, Kuala Lumpur, Malaysia; Department of Medical Parasitology, Faculty of Medicine and Health Sciences, University of Sana’a, Sana’a, Yemen

A cross-sectional study was carried out on 241 primary schoolchildren in Pahang, Malaysia to update their vitamin A status and to investigate the association of poor vitamin A status with their health and socioeconomic factors. All children were screened for intestinal parasitic infections. Blood samples were collected and vitamin A status was assessed. Socioeconomic data were collected by using pre-tested questionnaires. The results showed that 66 (27.4%) children had low serum retinol levels (< 0.70 µmol/L). Giardiasis and severe ascariasis were significantly associated with low serum retinol levels ($P = 0.004$ and $P = 0.018$, respectively). Logistic regression confirmed the significant association of giardiasis with low serum retinol (odds ratio = 2.7, 95% confidence interval = 1.3–5.5). In conclusion, vitamin A deficiency is still a public health problem in rural Malaysia. Vitamin A supplementation and treatment of intestinal parasitic infections should be distributed periodically to these children to improve their health and nutritional status.

Received June 30, 2009. Accepted for publication April 12, 2010.

We thank the headmaster and teachers in Sekolah Kebangsaan Betau, the staff of the Pos Betau Clinic, and Mustafa Kasem Abdulaziz (University of Malaysia) for assistance and the children and their parents for their voluntary participation in this study. Financial support: This study was supported by research grants from the University of Malaya, Kuala Lumpur, Malaysia (research code PS178/2007B).
Authors' addresses: Hesham M. Al-Mekhlafi, Johari Surin, and Mohammed A. K. Mahdy, Department of Parasitology, Faculty of Medicine, University of Malaya, Kuala Lumpur, Malaysia, E-mails: halmekhlafi@yahoo.com, joharisurin@um.edu.my, and alsharaby9@yahoo.com. Atiya A. Sallam, Department of Social and Preventive Medicine, Faculty of Medicine, University of Malaya, Kuala Lumpur, Malaysia, E-mail: atiya.absallam@gmail.com. Ariffin W. Abdullah, Department of Pediatrics, Faculty of Medicine, University of Malaya, Kuala Lumpur, Malaysia, E-mail: wanariff@ummc.edu.my.

*Address correspondence to Hesham M. Al-Mekhlafi, Department of Parasitology, Faculty of Medicine, University of Malaya, Kuala Lumpur 50603, Malaysia. E-mail: halmekhlafi@yahoo.com