Accuracy of the Kato-Katz, adhesive tape and FLOTAC techniques for helminth diagnosis among children in Kyrgyzstan

JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)

ID 524379
Author(s) Jeandron, A.; Abdyldaieva, G.; Usubalieva, J.; Ensink, J. H.; Cox, J.; Matthys, B.; Rinaldi, L.; Cringoli, G.; Utzinger, J.
Author(s) at UniBasel Utzinger, Jürg ;
Year 2010
Title Accuracy of the Kato-Katz, adhesive tape and FLOTAC techniques for helminth diagnosis among children in Kyrgyzstan
Journal Acta Tropica
Volume 116
Number 3
Pages / **Article-Number** 185-92
Keywords Helminth infection, Diagnosis, Kato-Katz, Adhesive tape method, FLOTAC, Kyrgyzstan
The purpose of this study was to assess the accuracy of three copro-microscopic techniques for helminth diagnosis: Kato-Katz, adhesive tape and FLOTAC. A total of 163 children from a peri-urban municipality near Bishkek, Kyrgyzstan, participated and submitted multiple stool samples and adhesive tapes. Ninety children supplied at least two stool samples and two adhesive tapes. Three stool samples and three adhesive tapes were available from 71 and 64 children, respectively. From each stool sample, a single Kato-Katz thick smear was prepared and examined quantitatively. Additionally, the first stool sample was subjected to the FLOTAC technique and helminth eggs were counted. Adhesive tapes were checked for the presence of Enterobius vermicularis eggs. Using pooled results as a diagnostic 'gold' standard, the prevalence of Ascaris lumbricoides, E. vermicularis, Hymenolepis nana and Dicrocoelium dendriticum were 54.4%, 13.3%, 11.1% and 11.1%, respectively. Infection intensities were low. When compared to triplicate Kato-Katz, a single FLOTAC was more sensitive for the diagnosis of A. lumbricoides (89.5% versus 39.5%) and D. dendriticum (88.9% versus 33.3%), but less sensitive for H. nana (66.7% versus 88.9%). For E. vermicularis, three adhesive tapes showed much higher sensitivity than a single FLOTAC (92.9% versus 14.3%). FLOTAC yielded significantly higher faecal egg counts than Kato-Katz for A. lumbricoides and D. dendriticum. Overall results suggest that, although FLOTAC represents a promising technique for helminth diagnosis in Kyrgyzstan, the repeated adhesive tape test remains so far the method of choice for diagnosing E. vermicularis
Publisher Elsevier Science Publ.
ISSN/ISBN 0001-706X
edoc-URL http://edoc.unibas.ch/dok/A5842795
Full Text on edoc No;
Digital Object Identifier DOI 10.1016/j.actatropica.2010.08.010
PubMed ID http://www.ncbi.nlm.nih.gov/pubmed/20800568
ISI-Number WOS:000284512400004
Document type (ISI) Journal Article