Aetiology of fever in returning travellers and migrants: a systematic review and meta-analysis

JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)

ID 4616848
Author(s) Buss, Imogen; Genton, Blaise; D'Acremont, Valérie
Author(s) at UniBasel Genton, Blaise ; D'Acremont, Valérie ;
Year 2020
Title Aetiology of fever in returning travellers and migrants: a systematic review and meta-analysis
Journal Journal of Travel Medicine
Volume 27
Number 8
Pages / **Article-Number** taaa207
Keywords COVID-19; Predictor; diagnosis; febrile; guidelines; likelihood ratio; tropical disease
Mesh terms COVID-19, diagnosis, epidemiology; Communicable Disease Control, standards; Diagnosis, Differential; Fever, diagnosis, etiology; Humans; Practice Guidelines as Topic; Transients and Migrants, statistics & numerical data; Travel Medicine, methods; Tropical Medicine, methods
Numerous publications focus on fever in returning travellers, but there is no known systematic review considering all diseases, or all tropical diseases causing fever. Such a review is necessary in order to develop appropriate practice guidelines.; Primary objectives of this review were (i) to determine the aetiology of fever in travellers/migrants returning from (sub) tropical countries as well as the proportion of patients with specific diagnoses, and (ii) to assess the predictors for specific tropical diseases.; Embase, MEDLINE and Cochrane Library were searched with terms combining fever and travel/migrants. All studies focusing on causes of fever in returning travellers and/or clinical and laboratory predictors of tropical diseases were included. Meta-analyses were performed on frequencies of etiological diagnoses.; 10 064 studies were identified; 541 underwent full-text review; 30 met criteria for data extraction. Tropical infections accounted for 33% of fever diagnoses, with malaria causing 22%, dengue 5% and enteric fever 2%. Non-tropical infections accounted for 36% of febrile cases, with acute gastroenteritis causing 14% and respiratory tract infections 13%. Positive likelihood ratios demonstrated that splenomegaly, thrombocytopenia and hyperbilirubinemia were respectively 5-14, 3-11 and 5-7 times more likely in malaria than non-malaria patients. High variability of results between studies reflects heterogeneity in study design, regions visited, participants' characteristics, setting, laboratory investigations performed and diseases included.; Malaria accounted for one-fifth of febrile cases, highlighting the importance of rapid malaria testing in febrile returning travellers, followed by other rapid tests for common tropical diseases. High variability between studies highlights the need to harmonize study designs and to promote multi-centre studies investigating predictors of diseases, including of lower incidence, which may help to develop evidence-based guidelines. The use of clinical decision support algorithms by health workers which incorporate clinical predictors, could help standardize studies as well as improve quality of recommendations.
Publisher Blackwell
ISSN/ISBN 1195-1982 ; 1708-8305
URL http://www.ncbi.nlm.nih.gov/pmc/articles/pmc7665639/
edoc-URL https://edoc.unibas.ch/82072/
Full Text on edoc No;
Digital Object Identifier DOI 10.1093/jtm/taaa207

PubMed ID http://www.ncbi.nlm.nih.gov/pubmed/33146395
Document type (ISI) Journal Article