

## Publication

### Ability of physicians to diagnose influenza and usefulness of a rapid influenza antigen test in febrile returning travelers : a randomized controlled trial

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Fever is a frequent cause of medical consultation among returning travelers. The objectives of this study were to assess whether physicians were able to identify patients with influenza and whether the use of an influenza rapid diagnostic test (iRDT) modified the clinical management of such patients.; Randomized controlled trial conducted at 2 different Swiss hospitals between December 2008 and November 2012. Inclusion criteria were 1) age  $\geq 18$  years, 2) documented fever of  $\geq 38$  °C or anamnestic fever + cough or sore throat within the last 4 days, 3) illness occurring within 14 days after returning from a trip abroad, 4) no definitive alternative diagnosis. Physicians were asked to estimate the likelihood of influenza on clinical grounds, and a single nasopharyngeal swab was taken. Thereafter patients were randomized into 2 groups: i) patients with iRDT (BD Directigen A + B) performed on the nasopharyngeal swab, ii) patients receiving usual care. A quantitative PCR to detect influenza was done on all nasopharyngeal swabs after the recruitment period. Clinical management was evaluated on the basis of cost of medical care, number of X-rays requested and prescription of anti-infective drugs.; 100 eligible patients were referred to the investigators. 93 patients had a naso-pharyngeal swab for a PCR and 28 (30%) swabs were positive for influenza. The median probability of influenza estimated by the physician was 70% for the PCR positive cases and 30% for the PCR negative cases ( $p < 0.001$ ). The sensitivity of the iRDT was only 20%, and specificity 100%. Mean medical cost for the patients managed with iRDT and without iRDT were USD 581 (95%CI 454-707) and USD 661 (95%CI 522-800) respectively. 14/60 (23%) of the patients managed with iRDT were prescribed antibiotics versus 13/33 (39%) in the control group ( $p = 0.15$ ). No patient received antiviral treatment.; Influenza was a frequent cause of fever among these febrile returning travelers. Based on their clinical assessment, physicians had a higher level of suspicion for influenza in PCR positive cases. The iRDT used in this study showed a disappointingly low sensitivity and can therefore not be recommended for the management of these patients.; ClinicalTrials.gov NCT00821626.

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