

Travel-associated infection presenting in Europe (2008–12): an analysis of EuroTravNet longitudinal, surveillance data, and evaluation of the effect of the pre-travel consultation

Background:

- expecting 1.8 billion tourist arrivals in 2030
- Europe largest proportion of inbound travellers and half of the world's international travellers (Asia, Americas, Africa)
- international migration increased from 56.2 Mio (2000) to 72.4 Mio (2013)

Methods:

- analysed travel-associated morbidities 2008-2012 (EuroTravNet)
- including criteria:
 - crossing international border before presentation
 - diagnosis considered travel-related by EuroTravNet physician
 - diagnosis based on causative pathogen or syndrome
- excluding criteria:
 - travel for immigration, unknown pre-travel encounter
- data were collated prospectively (Amsterdam, Brescia, Cambridge, Geneva, Hamburg, London, Madrid, Marseille, Munich, Oslo, Paris, Zurich)

Results:

- Table 1
- 32136 patients were analysed (2008-12, EuroTravNet clinics)
 - 51% men, median age 35
 - region of exposure → Sub-Saharan Africa (32%), Southeast Asia (14%), Southcentral Asia (13%), South America (8%)
 - 40% of returning travellers had pre-travel health consultation
- Figure 2
- top diagnosis: Malaria and acute diarrhea (> 70 proportionate morbidity per 1000 ill patients)
- Figure 3
- vector borne infections: ↑ *P. falciparum* (SSA, men, visiting f/r), dengue (2009 Netherland Antilles, 2010 Guadeloupe/Martinique, 2012 Cambodia/Thailand), chikungunya (2008 Comoros/Reunion/Sri Lanka, 2009 India/Maldives/Thailand, 2010 India/Indonesia/Thailand, 2011 India/Congo/Malaysia, 2012 Indonesia/Philippines), leishmaniasis in Western Europe, tickborne Encephalitis and West Nile virus
 - diarrhea: ↑ acute diarrhea, ↓ chronic diarrhoeae, *Campylobacter spp* infection increased
 - respiratory infections: influenza H1N1 pandemic (2009), tuberculosis
 - sexually transmitted infections: HIV/AIDS
- Figure 4
- Illnesses acquired in Europe (6%): 58% tourists (Spain, Germany, Italy, Greece): gastrointestinal infections, respiratory infections, Immigrants (83% Eastern Europe): chronic hepatitis C, tuberculosis, HIV, Hepatitis B
- Table 2
- pre-travel encounter: 21% visiting f/r, 46% tourists
 - most significant decrease in proportionate morbidity in *P falciparum*
 - also less acute hepatitis, HIV, animal bites
 - higher proportionate morbidity for diarrhea

Discussion:

- within Europe: tourists → bacterial diarrhoeae, respiratory infections, immigrants → tuberculosis (Eastern Europe, HIV-related?)
- sexually transmitted diseases might be underestimated due to care in other settings
- increase in animal-related bites (+PEEP)
- pre-travel encounter → less malaria, increased diarrhoeae

Limitations:

- only patients presenting to specialized clinics are included
- 12 clinics were very heterogeneous, only one new site country