Education of healthcare professionals on Tropical Medicine and Travellers Health in East Africa – a review

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Abstract:

26 Round-Trip Educational Courses on Tropical Medicine and Travelers' Health were organised by the author between 1995 – 2006 in Uganda and Kenya. Healthcare professionals from Europe, USA, Canada and Australia were trained in endemic areas where tropical infectious diseases occur. The author reviews his experience.

Background:

Travelling to the tropics is becoming more popular in the Western world (1). As a result an increasing number of tourists return to their home countries with diarrhoea, malaria and other tropical infectious diseases (2). The continuous stream of migrants, refugees and asylum-seekers to Europe (3) presents healthcare professionals with tropical infectious diseases which they have not seen before. Global warming will also contribute to an increase in tropical infectious diseases in temperate climates (4). Recent figures in American and European hospitals have shown that an increasing number of malaria patients were not recognised on first examination (5). These observations underline that healthcare professionals in the Western world require "intensified" hands on experience in clinical Tropical Medicine and Travelers` Health. The author has organised *26 Round-Trip Educational Courses* in Uganda and Kenya and reviews his experience in this article.

Design:

Each course was designed for up to 7 healthcare professionals and supervised by Tropical Medicine experts from the University of Mbarara, Uganda and the University of Nairobi, Kenya. During the 2-week long round trips (on average 1500 km by 4X4 car and plane), participants visited different hospitals, healthcare projects and research centres in urban and rural areas of Uganda and Kenya respectively. Through a combination of rounds with informal bedside teaching on-site, laboratory manuals and lectures, the epidemiology, pathogenesis, clinical manifestations, diagnosis, treatment, prevention and control of the most important tropical infectious diseases were covered in the endemic areas. The curriculum included among others: african trypanosomiasis, malaria, visceral leishmaniasis, schistosomiasis, lymphatic filariasis, onchocerciasis, dengue fever, HIV / AIDS and related opportunistic infections, leprosy and characteristic dermatological and opthalmological diseases in the tropics. The participants got an update on Travelers` Health (e.g., differential diagnosis of fever and diarrhoea in the tropics, WHO-vaccination guidelines). They visited the "Flying Doctors" headquarter of the African Medical Research Foundation (AMREF) and the Joint Clinical Research Centre (JCRC), where the latest HIV vaccine trials are carried out. At the end of each course, participants received a CME certificate on 50 contact hours on applied clinical Tropical Medicine & Travelers` Health.

Results:

26 Round-Trip Educational Courses have been carried out between 1995 – 2006, 14 in Kenya and 12 in Uganda. A total of 188 healthcare professionals from all over the world - 144 (77%) from Europe, 37 (20%) from USA / Canada, 7 (3%) from Australia - joined the courses. Among them were 90 women (48%) and 98 men (52%) with an average age of 45 years. Of the participants, 80 were general practitioners (43%), 46 tropical medicine experts (24%), 33 microbiologists (18%), 12 occupational health experts (6%), 9 dermatologists (5%). 179 (95%) of the participants stated that they were faced increasingly with immunisations, pretravel advice, and posttropical screening. 184 (98%) of the participants joined the expeditions primarily for further training.

Discussion:

Because of the rise in international travel to tropical destinations, more physicians will need to give pre-travel advice and more will face tourists returning with tropical infectious diseases. However, many of them have not been trained in clinical Tropical Medicine and Travelers` Health. A survey in general practice in the UK identified inadequacies of training and use of multiple sources of reference, resulting in inconsistencies in travel medicine advice (6). In Canada 40% of the clinics would need to improve the education of their staff in order to keep up with up with travel medicine practice (7).

Teaching medical staff can be done via lectures, the internet, or computer-based resources (8). However, hands-on-experience in clinical Tropical Medicine and Travelers` Health can be obtained only when healthcare professionals see and examine patients with tropical infectious diseases. Several Tropical Medicine Teaching Institutions in Europe, such as the Bernhard-Nocht Institute in Hamburg (9) and the London School of Hygiene and Tropical Medicine (personal experience) provide hospital services for tropical infectious diseases. However, because of the low admission number of patients, the teaching experience in clinical Tropical Medicine is limited.

Short educational courses on Tropical Medicine for up to 10 participants have in recent years been established in larger cities in South America, Africa and Asia (10). Those courses are usually held for 2 weeks in large teaching hospitals, commonly organised in collaboration with a local and foreign university. During rounds, case conferences, laboratory activities and lectures, participants gain knowledge on the pathogenesis, epidemiology, diagnosis, signs and symptoms and treatment of tropical infectious diseases. On occasional excursions to nearby hospitals and outpatient clinics, participants get an insight into the local healthcare system.

Round-Trip Educational Courses (Tropical Medicine Expeditions) held annually in Uganda and Kenya by the author since 1995 have been designed to train healthcare professionals in clinical Tropical Medicine and Travelers' Health in the respec-

tive endemic areas. During the 2 week long round trips, participants travel to various university hospitals, outpatients clinics and research projects in urban and rural areas of Uganda and Kenya and are taught on clinical Tropical Medicine in regions where the diseases occur.

Two typical course days in Uganda would consist of the following activities:

1st Day: Between Kampala and Jinja participants pass an area endemic for african trypanosomiasis. After a lecture on sleeping sickness, the course members attend rounds in a teaching hospital in Jinja near Lake Victoria, where they examine patients with confirmed african trypanosomiasis and discuss signs and symptoms and treatment with consultants in charge. Following a field laboratory session on diagnostic techniques for african trypanosomiasis *(See Figure 1)*, participants are guided by a senior entomologist through a Tse-tse fly control Centre. The day ends with a scientifc excursions to a national park, where participants among other animals see antelopes – the main reservoir of *T. brucei rhodesiense* - and discuss prevention and control measures with senior epidemiologists from local institutions.

2nd Day: The participants travel to Mbarara in Western Uganda, an area endemic for malaria. After lectures, laboratory manuals and bedside-teaching on the paediatric ward - assessing children with cerebral malaria - in the Mbarara University Teaching Hospital (See Figure 2), they visit a malaria control project (impact of impregnated bednets in local communities & ongoing anopheles mosquitos research) followed by an evening lecture on the differential diagnosis of fever in travelers returning from the tropics.

The unique structure of *Round-Trip Educational Courses* to Uganda and Kenya enables participants to experience tropical infectious diseases were they occur. Further *Round-Trip Educational Courses* in other tropical regions of the world will hopefully motivate more clinicians to strengthen their experience in clinical Tropical Medicine and Travelers' Health and thereby improve the healthcare of returning travelers.

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