

What is Tropical Medicine?

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At first sight this seems a question with an obvious response and not one that requires debate in the editorial columns of a tropical medicine journal. However, the answer may be more complex than appears at first sight and perhaps it may therefore benefit from a more detailed exploration. The obvious response is that the discipline of “Tropical Medicine” refers to the practice of medicine in the tropics. But does it refer to all medical practice that takes place within the Tropics, does it refer to the practice of medicine within resource poor settings or does it refer to the diagnosis and treatment of infectious and parasitic diseases found in a tropical environment? There is no standard definition of Tropical Medicine. In the UK, doctors who wish to specialize in Tropical Medicine (TM) must first train in General Internal Medicine (GIM) and secure their exam to gain Membership of the Royal College of Physicians (MRCP). They then follow the training pathway for specialists in Infectious Disease (ID) with the addition of doing a full time course of study for the Diploma of Tropical Medicine & Hygiene (DTM&H). Study is carried out at either the London or Liverpool Schools of Tropical Medicine and the diploma is conferred either by the Royal College of Physicians of London or the Liverpool School of Tropical Medicine. Additionally trainees who wish to be certified in TM must spend at least 2 years of their training at the UK centre approved for TM training (currently Liverpool, London and Birmingham) and spend a year working overseas in a resource poor setting. In many other countries, TM does not exist as a distinct specialty but is incorporated into the practice of Infectious Disease. In the US, it is not a board certified specialty but there are several credentialed courses available. These days, Tropical Medicine is often referred to as global/geographical health or international health and it encompasses a number of sub specialties such as refugee healthcare, travel medicine and expedition or remote/wilderness medicine.

People become unwell in Tropical Countries for the same reason that they become ill in any environment: they are either born with genetic defects or anatomical and physiological defects that cause pathology or they acquire certain conditions that cause disease including cancer, infection and other inflammatory or degenerative conditions. On the whole, countries within the Tropical regions tend to have less physical and economic resources and as a result of this will have a less developed infrastructure and more poverty. This tends to lead to poorer sanitation and increased malnutrition compared with temperate climes. Malnutrition causes impaired defence against infection and overcrowding and poor sanitation exposes a population to increased risks of respiratory and gastrointestinal infection. Infection (especially if it is gastrointestinal and causes diarrhea) will worsen malnutrition and thus a vicious circle is established (Figure 1). There are, of course, states within the Tropics that have more successful economies and to whom poverty considerations are less relevant. In addition to poverty and poor infrastructure, there are many parasitic infections that will only occur in a tropical climate because they are caused by parasites that have a life cycle that will be interrupted should the ambient temperature fall below a certain level.

Infection is the biggest cause of mortality and morbidity within the Tropics and this includes the non specific gastrointestinal and respiratory infection causing diarrhea and acute respiratory syndromes especially in children under five years old. The other three major

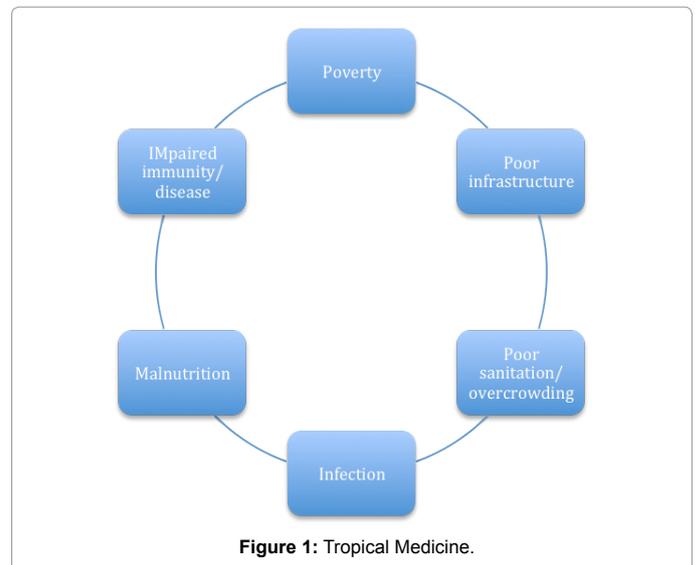


Figure 1: Tropical Medicine.

infections of concern in the tropics and often specifically targeted together by funding agencies are malaria, HIV and tuberculosis. The latter two are inextricably linked and it now appears that HIV also has an impact on the frequency and severity of malaria. Helminthic infection is additionally a major cause of illness with strongyloides and schistosomiasis producing a variety of chronic conditions and various other gastrointestinal parasites causing a combination of malnutrition and anaemia.

In addition to infection, populations in the tropics suffer from a high degree of other chronic conditions usually grouped together and known as the Non Communicable Diseases (NCDs). These include some of the problems related to malnutrition and some of the more conventional diseases related to “Western” life style issues of cigarette smoking, alcohol and obesity and inactivity. Therefore diabetes, vascular disease and cancer become significant concerns and in a resource poor setting may present late and become more prevalent due to a lack of public health and preventive medicine programme.

So in answer to my opening question, “Tropical Medicine” is probably “all of the above”. A tropical doctor has to be an excellent physician with good clinical and diagnostic skills as they may have

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little access to high tech diagnostic services. They have to be excellent communicators to talk to those to whom English (or other European languages) is not their first language. They have to be flexible to work with drugs in limited supply situations.

In addition to excellent clinicians, the practice of Tropical Medicine is a very multi disciplinary specialty and requires input

from epidemiologists, logisticians, microbiologists, virologists and parasitologists. Because many of the infections are zoonotic, collaboration with veterinary colleagues is mandatory.

Above all tropical doctors have to be adaptable and resilient as they themselves may be living in dangerous and difficult circumstances and compassionate because of the suffering that they will encounter.