

Emergency Medicine in Madagascar

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Author's Introduction

Dr. Ramalanjaona serves as the ACEP Lead Ambassador to Madagascar and successfully introduced EM as a specialty in Madagascar in the summer of 1999.

Brief History/Social Context of the Country

The Democratic Republic of Madagascar lies off the southeastern coast of Africa and is the fourth largest island in the world. It became independent from France in June 1960 and enjoys a stable political democracy. It has an estimated population of 18 million with an average per capita income of \$400 (U.S.) per year. The Malagasy people are a mixture of Indo-Malaysian and African descent, and all the major religious affiliations are represented including Christianity, Islam and Hinduism. Education is modeled after the French system, and the official languages of instruction are French and Malagasy. Knowledge of the English language is a requirement in secondary education and medical schools.

Traditional Medicine

The practice of traditional medicine, handed down through generations, such as folk remedies and herbal medicine, remains popular for those unable or unwilling to seek western treatment. Also, the rainforests of the island are reservoirs of local traditional plants used for medicinal purposes, including the rarahana plant which has anesthetic qualities. Furthermore, these traditional healers, or Ombiasy, perform the duties of both spiritual guides and physical healers. One becomes an Ombiasy by an informal training passed along through generations, and they gather and formulate their own medications.

General Overview of Healthcare System

The island is divided into six provinces each with its own provincial hospital that is supplemented by several local hospitals, dispensaries, maternal centers and mobile health units. The main hospitals are the University of Antananarivo (1,300 beds) and the University of Mahajanga (400 beds) which host the two schools of medicine on the island. There is one hospital bed for every 586 people and one physician per 8,300 inhabitants. The island has a high birth rate of 45.8 per 1,000 and low death rate of 14 per 1,000 with 50% of population under the age of 15 years. The overall literacy rate is 80% and average life expectancy is 57.5 years. The main causes of death are infectious diseases (tuberculosis and infectious gastroenteritis), malnutrition and cardiovascular events.

Pre-Hospital Care

A single 911 dispatch system does not exist; police, fire and medical emergencies are handled by three different communication systems. There is no uniform training or certification of emergency medical technicians (EMT's) on the island. There are two emergency medical services (EMS) systems, urban and rural, sharing common characteristics: each consists of two major divisions (pre-hospital

and hospital), offers primarily transport services in 90% of runs and are equipped with rudimentary instruments for transport and stabilization (oxygen tank, stretcher, splint and first aid kits). They only differ by the average of radius covered (100 km for urban vs. 25 km for rural) and number of EMT's available (0.13 per 1,000 people for urban vs. 0.001 per 1,000 for rural).

Emergency Medicine

EM is an integral part of the Malagasy healthcare system. The Ministry of Health sets the guidelines and manages the leadership role for EM care. The scope and pattern of EM practice varies according to the type, location and hospital affiliation. In rural and private clinics, the ED is staffed by a nurse, a PA (physician assistant) onsite, and one on-call physician; at the provincial hospital, it is staffed by trained and certified EPs and ED house staff. The latter is composed of one senior resident who is in charge of trauma resuscitation, one senior and junior medical student all under the supervision of an attending emergency physician (EP). Emergency physicians are trained for an average of two to three years after their internship and are paid government employees. Provincial ED's have onsite labs and x-rays including a CT scanner and ultrasound capabilities. They also have on-call specialists who perform abdominal and thoracic surgical procedures emergently if needed.

EM Education

The University of Antananarivo has one of the only two existing EM residency programs in Africa (apart from the University of Capetown, South Africa). The training lasts between two and three years after internship with sub-specialization in anesthesiology where available. The program uses BLS and ACLS with simulator and manikin training. In 2005, the University of Antananarivo graduated its first residency class of EPs, and since then, six EPs per year have completed their training. In 2007, the EM Malagasy Professional Society successfully applied as a member of IFEM (International Federation of Emergency Medicine).

Future of EM

The government plans to establish an academic department within the two existing schools of medicine including implementing a faculty development program, opening of another EM residency program at the University of Mahajanga, expanding the number of graduates at the University of Antananarivo and development of a regional affiliation with other sub-Saharan countries (i.e. South Africa) to facilitate the acceptance of EM as a primary specialty.

References:

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