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REGULAR FEATURE

Uchunguzi (Journal Watch/*Montre de Journal*)



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Uchunguzi means investigation in Swahili and provides a summary of some of the most recent international literature as presented in other leading journals, but with an emphasis on what is relevant to our continent.

Does this patient have Ebola (EVD)?

Ebola virus is one of the most virulent human pathogens with case fatality rates of 30–90% in the absence of any approved treatment or vaccination. The current outbreak in West Africa probably began in December 2013 but it's not until August 8, 2014 that the World Health Organization (WHO) declared it a public health emergency of international concern. As of October 2014, the countries with widespread transmission include Guinea, Liberia and Sierra Leone. Other countries that have been affected (these countries each had a single case, and persons travelling to these countries should not be considered to be at risk for exposure to Ebola) include Nigeria (Port Harcourt and Lagos), Spain (Madrid), United States (Dallas, TX), and Senegal (Dakar). Ebola is spread through direct contact (through broken skin or mucous membranes in, for example, the eyes, nose, or mouth) with blood or body fluids (including but not limited to urine, saliva, sweat, faeces, vomit, breast milk, and semen) of a person who is sick with Ebola. A patient must have symptoms to spread the disease to others. It may also be transmitted through objects (like needles and syringes) that have been contaminated with the virus and infected animals. Ebola is not spread through air or by water, or in general, by food. However, in Africa, Ebola may be spread as a result of handling bush meat (wild animals hunted for food) and contact with infected bats. There is no evidence that mosquitos or other insects can transmit Ebola virus. Only mammals (for example, humans, bats, monkeys, and apes) have shown the ability to become infected with and spread Ebola virus. Symptoms of Ebola include fever (greater than

38.6 °C or 101.5°F), severe headache, muscle pain, weakness, diarrhoea, vomiting, abdominal (stomach) pain, and unexplained haemorrhage (bleeding or bruising) and may appear anywhere from 2 to 21 days after exposure to Ebola, but the average is 8–10 days. Physicians working in the emergency department and out-patient settings must be able to identify patients with possible EVD and manage them with two main objectives: (1) to prevent any human-to-human transmission of Ebola virus in contacts including health care workers, relatives and other patients; and (2) to ensure all suspected EVD patients receive appropriate care, whether or not infected.

Reference: Centers for Disease Control and Prevention. *Ebola (Ebola Virus Disease)*. Centers for Disease Control and Prevention. <http://www.cdc.gov/vhf/ebola/index.html>; 2014 [online, cited: October 13, 2014.]

Mass-casualty shooting: lessons from an African EC

At approximately 12:30 PM on Saturday, September 21, 2013, armed assailants attacked the upscale Westgate shopping mall in the Westlands area of Nairobi, Kenya. Casualties were rushed to the nearby hospitals by private ambulance services that had responded to the incident. The Aga Khan University Hospital, Nairobi (AKUH, N) emergency centre (EC) located three kilometres away from the incident successfully coordinated the reception and care of the 65 casualties brought to the hospital. This special report describes the AKUH, N EC response during the mass-casualty shooting incident. Describing the use of the seven key Major Incident Medical Management and Support (MIMMS) principles, command, safety, communication, assessment, triage, treatment, and transport (CS-CATTT), the report details how the EC was able to successfully coordinate the reception and care of all casualties brought to the hospital after the shooting. This information will hopefully be helpful to other ECs looking to develop EC specific mass-casualty emergency preparedness plans appropriate

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for their local health care systems as preparedness to take action is the prime instrument for reducing morbidity and mortality from mass-casualty incidents.

Reference: Wachira BW, Abdalla RO, Wallis LA. Westgate shootings: an emergency department approach to a mass-casualty incident. *Prehosp Disaster Med* 2014;**10**:1–4 [Epub ahead of print]

Emergency Medicine development in Ghana

Emergency Medicine (EM) is considered to be a new specialty in comparison to other medical specialties and the creation of residency training programmes in developing nations is a recent occurrence. Ghana's first Emergency Medicine residency and nursing training programmes were initiated in 2009 and 2010, respectively, at Komfo Anokye Teaching Hospital in the city of Kumasi in association with Kwame Nkrumah University of Science and Technology and the Universities of Michigan and Utah. This article looks at the history and status of the novel postgraduate emergency physician, nurse, and prehospital provider training programmes as well as the prospect of creating a board certification process and formal continuing education programme for practicing emergency physicians. It also highlights some of the challenges faced that may be faced by other organizations looking to establish similar programmes in other low-middle income countries e.g. time needed to build a so-called critical mass of fellowship-trained EM Consultants required for adequate in-country trainee teaching, supervision and continued development of the educational programme. Urbanization of populations across the developing world has led to a demographic shift from infectious disease to traumatic injury and cardiopulmonary disease, prompting an increased interest in the development of EM and prehospital care. This work represents a significant move towards in-country development of sustainable, interdisciplinary and team-based emergency provider training programs designed to retain skilled health care workers in Ghana, and may serve as a training model for other developing nations.

Reference: Martel J, Oteng R, Mould-Millman NK, et al. The development of sustainable emergency care in Ghana: physician, nursing and prehospital care training initiatives. *J Emerg Med* 2014;**47**(4):462–8.

Road traffic injuries (RTI) in Ethiopia

Worldwide, an estimated 1.2 million people are killed in road crashes each year and as many as 50 million are injured. African countries have the highest mortality rate, with 28.3 deaths per 100 000 populations and the problem is increasing at a fast rate due to rapid motorization and other factors. This recent publication from Ethiopia assessed the incidence of road traffic injury and associated factors among patients visiting an EC in Addis Ababa, the capital city of Ethiopia. A total of 356 systematically selected study subjects were included in the study. The incidence of road traffic injury was 36.8% with majority of the patients (76%) being between the age of 20 and 59 which is generally the age group of the most economically active people (aged 15–59). Those injured were pedestrians (26.4%), passengers (5.1%), drivers (4.5%), and front seat passengers (1.1%). More patients arrived to the EC by private means

(79.4%) versus ambulance. Head, neck and facial injuries were the most common injuries (43.5%) and majority of the patients (61.8%) were admitted. Being a farmer, conflict with family members, financial problems, psychological problems, and alcohol use were factors independently associated with RTI. These study findings highlight the need for African countries to collect and organize data on RTIs that will provide good information on the incidence and factors associated with RTIs on the continent. The information will help inform the development of effective legislation and educational responses towards the growing epidemic.

Reference: Tiruneh BT, Dachew BA, Bifftu BB. Incidence of road traffic injury and associated factors among patients visiting the emergency department of Tikur Anbessa specialized teaching hospital, Addis Ababa, Ethiopia. *Emerg Med Int* 2014;**2014**:439818.

Do no harm

Emergency centres (EC) are often stressful environments where doctors and nurses manage acutely ill patients under resource-constrained and time-constrained circumstances. Working under such circumstances usually poses unique ethical challenges in patient care—issues that primarily raise moral rather than clinical concerns. These challenges include management of patients who may or may not be in a position to give informed consent, the need to maintain patient privacy and confidentiality in a disordered space, dealing with requests to provide treatment of no clinical benefit and discussing sensitive and difficult decisions regarding the end of life with patients and families. In this recent publication, in-depth interviews to determine the common ethical challenges faced during patient care were conducted with Emergency Medicine (EM) residents and physicians working in an academic EM department and EC in a teaching hospital in Karachi, Pakistan. The goal was to understand, in the physicians' own words, the situations or circumstances that they find ethically challenging in their local cultural, economic and clinical context. The participants interviewed described four key challenges: how to provide highest quality care with limited resources; how to be truthful to patients; what to do when it is not possible to provide or continue treatment to patients; and when (and when not) to offer life-sustaining treatments. Participants' accounts provided important insights into how physicians tried to resolve these challenges in the 'local moral world' of an EC in Pakistan. The study highlights the need for developing systematic and contextually appropriate mechanisms for resolving common ethical challenges in ECs and for training residents and EC doctors in moral problem solving.

Reference: Zafar W. Moral experience and ethical challenges in an emergency department in Pakistan: emergency physicians' perspectives. *Emerg Med J* 2014. doi: 10.1136/emmermed-2014-204081 [Epub ahead of print]

EMS in rural Uganda

The goal of an Emergency Medical Services (EMS) system is to prevent needless death or disability from time-sensitive disease processes. Despite growing evidence that these processes contribute significantly to mortality in low- and middle income countries (LMICs), there has been little focus on the

development of EMS systems in these countries. In this special report from a new EMS system in Ruhiira, Uganda, the authors describe the utilization pattern of the ambulance system and look at its cost effectiveness. From the 207 cases reviewed, out of all transfers, 66% were obstetric related, while 12% were related to malaria. Malaria (34%) and trauma (28%) contributed to the majority of activations by men. Cost-benefit analysis revealed a cost of US\$89.95 per life saved with an estimated US\$0.93/capita to establish the system and US\$0.09/capita/year to maintain the system. This Letter proves that EMS systems in rural Africa can be affordable and highly utilized, particularly for life-threatening, nontrauma complaints contrary to common belief. Construction of a

simple but effective EMS system is feasible, acceptable, and an essential component to the primary health care system of LMICs.

Reference: de Ramirez SS, Doll J, Carle S, et al. Emergency response in resource-poor settings: a review of a newly-implemented EMS system in rural Uganda. *Prehosp Disaster Med* 2014;**29**(3):311–6.

Conflict of interest

The author declare no conflict of interest.