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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.

Evidence based emergency medicine literature from 2011

The Global Emergency Medicine Literature Review (GEM-LR) conducts an annual search of published and unpublished articles relevant to global emergency medicine (EM). Of the 7924 articles selected for full review this year, 80% related to EM practice in resource-limited settings. As in previous years, many of the articles selected focus on vulnerable populations, such as women and children. A number of articles also reviewed or studied typical presentations, treatment regimens and prevention of various acute infectious diseases that are pri-

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marily seen in low- and middle-income countries. Articles looking at the use of devices, laboratory studies, or interventions that have been adapted for these settings were also included. As cell phones and the internet become more readily available in developing countries, EM practitioners are exploring new ways to teach EM via distance learning. For those who missed out on all the exciting science last year, this is definitely a useful resource to catch up as emergency medicine is a rapidly growing field especially here in Africa.

Global emergency medicine: a review of the literature from 2011. *Acad Emerg Med* 2012;19(10):1196–1203.

Contact your WHO country office and your ministry of health immediately – World Health Assembly Resolution 60.22

The World Health Assembly is the governing body of the WHO and consists of all of the ministers of health or their designees from all WHO member states. With more than 80% of worldwide deaths from cardiovascular disease occurring in low- and middle-income countries and 90% of the more than 5 million trauma-related deaths and 100 million disabilities occurring annually in the same region, the World Health Assembly Resolution 60.22, “Health Systems: Emergency Care Systems,” highlighted the role that strengthened emergency care services can play in decreasing the global burden of disease resulting from acute illness and injury. The Resolution

urged governments to take a number of specific steps to strengthen emergency care services that included: (1) assessing comprehensively the prehospital and emergency-care context including, where necessary, identifying unmet needs, (2) identifying a core set of trauma and emergency-care services, and developing methods for assuring and documenting that such services are provided appropriately to all who need them, (3) ensuring that data sources are sufficient to monitor objectively the outcome of efforts to strengthen trauma and emergency-care systems, (4) devising standardized tools and techniques for assessing need for prehospital and facility based capacity in trauma and emergency care, (5) providing support to Member States, upon request, for need assessments, facility inspection, quality-improvement programmes, review of legislation, and other aspects of strengthening provision of trauma and emergency care and (6) encouraging research and collaboration with Member States in establishing science-based policies and programmes for implementation of methods to strengthen trauma and emergency care. World Health Assembly 60.22 recognizes the necessity of evidence-based approaches to development of emergency care and asks the WHO to promote emergency medicine research to expand the development and implementation of evidence-based emergency care health policy, programmes, and clinical practice.

World Health Assembly Resolution 60.22 and its importance as a health care policy tool for improving emergency care access and availability globally. *Ann Emerg Med* 2012;60:35–44.

www.evidence-based emergency medical information/Africa

Health care workers (HCW) rely on Internet-based medical resources to obtain current evidence-based clinical guidelines. While such resources are being used with increasing frequency in developed countries, they have not been broadly employed in resource-limited settings (RLS). Sub-Saharan Africa boasts the world's fastest growing Internet population, increasing by over 2500% between 2000 and 2011 (Internet World Stats, 2012). In this study conducted in Rwanda, Malawi, and South Africa, 102 HCW were trained to use an online evidence-based, physician-authored clinical knowledge system. The majority of users were doctors (63%), nurses (25%) or medical officers and/or students (12%). One hundred percent of respondents reported the tool "somewhat" or "very much" improved their clinical knowledge. Ninety-six percent of surveyed users felt the tool was "much faster" or "faster" in finding information than the best available alternative. Sixty percent responded that the tool led to improved quality of patient care. These data suggest that the provision of timely evidence-based emergency medical information via the Internet is feasible in RLS and could improve providers' knowledge, clinical practice and potentially patient outcomes.

Health care workers in Africa access a broad range of topics using evidence-based online medical information. *Global Public Health* 2012;7(8):823–39.

FASH (Focused Assessment of Sonography in HIV and Tb)

Extrapulmonary tuberculosis (EPTB) is frequently seen in human immunodeficiency virus (HIV)-infected individuals in Sub-Saharan Africa and recent work has shown point-of-care

(POC) ultrasound to be a diagnostic aid in the resource-limited, highly endemic setting. EPTB in HIV patients may manifest as enlarged lymph nodes, focal lesions in the spleen and liver, along with pathologic pleural or pericardial effusions. These findings are seen with ultrasound and lead not only to an earlier diagnosis but assist in therapeutic decisions. This recent study looked at a cohort of 243 HIV-positive in-patients of whom 27 [11.1%, 95% confidence interval (CI) 7.4–15.7] were diagnosed with EPTB. Ultrasound showed a typical pattern of enlarged abdominal lymph nodes and focal lesions in the spleen and liver in 22 patients (81.5%, 95% CI 7.4–15.7) and, thus, helped to raise the suspicion of mycobacterial infection. Six patients (22.2%) had negative chest X-ray sputum and bronchoalveolar lavage cultures. In five of these patients, the clinical suspicion of TB raised from point-of-care (POC) ultrasound and the specimen which allowed the microbiological diagnosis was collected by ultrasound-guided biopsy. As disseminated mycobacterial infections in HIV-positive patients can be treated effectively if diagnosed early, and typical sonographic findings are seen in the majority of these patients, POC ultrasound should be integrated in diagnostic and screening algorithms for EPTB in resource-poor as well as in more wealthy settings.

Extrapulmonary mycobacterial infections in a cohort of HIV-positive patients: ultrasound experience from Vicenza, Italy. *Infection* 2012. doi: <http://dx.doi.org/10.1007/s15010-012-0336-4>.

Nursing burns

Optimal care of the burn patient requires a multi-disciplinary team approach. The nurse is at the core of this team. He or she is the coordinator of all patient care activities. During all the phases of management of the burn patient, the nursing assessment should focus on early detection or prevention of complications that are associated with minor to major burns. During the emergency phase, treatment should be directed towards three focus areas: initial assessment and resuscitation (primary and secondary survey), fluid resuscitation, and wound care. In Africa, generally, burn patients die of two causes: early deaths, as a result of burn shock and late deaths, as a result of sepsis and multiple organ failure. This article focuses on the nursing aspects of emergency management of the patient with severe burns in the emergency unit. Proper evaluation and management that start as early as possible post the burn event, greatly assist in minimizing suffering and optimizing the outcome for the patient.

Emergency management of the patient with severe burns in the emergency unit. *Prof Nurs Today* 2012;16(3):37–45.

A PAWPER's guide to estimating a child's weight during emergency care

Many therapeutic interventions in children are dependent on the child's weight. The ideal solution is to obtain an actual measurement of body weight but this is often impossible during emergency care. The most commonly used methods of estimating a child's weight include guesses, formulas based on the child's age (or on a guess of the child's age) and systems making use of a tape-device. The paediatric advanced weight-prediction in the emergency room (PAWPER) tape is a single-

use tape that was designed to be produced at a cost of about 50 US cents (hence the pun on “pauper”) with no commercial incentive attached. The tape is a length-based habitus-modified weight estimation system that provides the weight estimations for each habitus score for a child of that length. The PAWPER tape performed well, and better than the Broselow tape, which is arguably the gold-standard weight-estimation system, in every analysis performed. The mean percentage error was -3.8% vs 0% and the root mean squared percentage error was 9.1% vs 4.5% for the Broselow tape and PAWPER tape, respectively ($p < 0.0001$). The Broselow tape predicted weight to within 10% of actual weight in 63.6% of children and the PAWPER tape in 89.2% ($p < 0.0001$). The tape can be used with minimal training and removes the need to remember formulas and perform calculations to estimate weight during stressful medical management situations.

The PAWPER tape: a new concept tape-based device that increases the accuracy of weight estimation in children through the inclusion of a modifier based on body habitus. *Resuscitation* 2012. doi: <http://dx.doi.org/10.1016/j.resuscitation.2012.05.028>.

Distinguishing children with serious infection from those with minor or self-limiting infection

Distinguishing children with serious infection from those with minor or self-limiting infection is difficult and can result in misdiagnosis of children with serious infections, which results in a poorer health outcome, or a tendency to refer or admit children as a precaution; thus, inappropriately utilizing secondary-care resources. This systematic review identified clinical features and laboratory tests which identify serious infection in children attending the emergency departments and primary care and also identified clinical prediction rules and validated those using existing data sets. The most useful clinical features for ruling in serious infection was parental or clinician overall concern that the illness was different from previous illnesses or that something was wrong. Procalcitonin and C-reactive protein were superior to white cell counts but the LR+ and LR- are not very high, confirming the importance of assessing results in the light of clinical findings. The best performing clinical prediction rule was a five-stage decision tree rule, consisting of the physician’s gut feeling, dyspnoea, temperature $\geq 40^\circ\text{C}$, diarrhoea and age. Though several clinical features, laboratory tests and clinical prediction rules are useful to increase or decrease the probability that a child has a serious infection, none is sufficient on its own to substantially raise or lower the risk of serious infection.

Systematic review and validation of prediction rules for identifying children with serious infections in emergency

departments and urgent-access primary care. *Health Technol Assess* 2012;16(15):1–100.

Emergency care reduces inpatient mortality in Sierra Leone

The demand for high quality hospital care for children in low resource countries has not been met yet. In response to the persistent high inpatient mortality rate and the increased number of patients, a team of local and international staff aimed to improve emergency care for children arriving at a tertiary children’s hospital in Sierra Leone. Through focus group discussions with hospital staff, five priority areas were identified to improve emergency care i.e. staff training, hospital layout, staff allocation, medical equipment and medical record keeping. Following interventions to these key priority areas, inpatient mortality rate was reduced to 5.9% compared to 12.4% in the pre-intervention period. The estimated cost per death averted was USD 148. Based on this study, it is possible to significantly reduce short-term inpatient mortality in low resource settings by improving the quality of emergency care at a cost of USD 148 per death averted.

Reductions in inpatient mortality following interventions to improve emergency hospital care in Freetown, Sierra Leone. *PLoS One* 2012;7(9):e41458.

Borrowing pre-hospital trauma care lessons from neighbouring African countries

Road traffic injuries (RTIs) and attendant fatalities on Nigerian roads have been on an increasing trend over the past three decades. Mortality from RTIs in Nigeria is estimated to be 162 deaths/100,000 population. This study aimed to compare and identify best prehospital trauma care practices in Nigeria and some other African countries where prehospital services operate. The study focused on policies, structures, first responders, communication facilities, transport and ambulance facilities, and roadside emergency trauma units. Some of the African countries that have improved prehospital services include South Africa, Zambia, Kenya, and Ghana. Enabling commercial drivers, laypersons, military, and police to be first responders, having a centrally controlled communication network, and establishment of a government ambulance service are feasible delivery models that can be incorporated into the local prehospital systems based on successful lessons learned from these African countries.

Prehospital trauma care systems: potential role towards reducing morbidities and mortalities from road traffic injuries in Nigeria. *Prehospital Disaster Med* 2012;27(6):1–7.