“Now I know where to start”. Clinical impact of a trauma course for medical students in Kenya

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Dr. John Anjichi was at the Emergency Department assisting the clinical officer when he heard the news: A matatu (public transportation taxi) had collided with a boda boda (motorcycle). All 10 injured patients were en-route to their Emergency department. The patients arrived soon after, and chaos ensued. “Many patients were screaming. I did not know what to do, so I focused on doing the primary survey and a secondary survey on all the patients. I noticed the quiet guy in the corner, so I went to him first. He was hypotensive. It turned out he had a hemothorax and required a chest tube.” said Anjichi.

This scene plays out daily in district hospitals all across Kenya. An observational study in 2011 showed that trauma was the second most common presenting complaint in public emergency departments. The individuals charged with taking care of these injured patients are the least well trained: Interns and clinical officers (mid-level providers with a two year diploma in clinical medicine). Kenyan medical students receive instruction on the management of injured patients during their surgical clerkships. However, since Emergency Medicine is not a recognized specialty, students lack exposure and structured hands-on instruction on the care of the acutely injured patient in the emergent setting. Upon graduation, these new physicians are expected to practice with minimal supervision.

In March 2015, physicians from the Emergency Department at Brown University and Department of Disaster Risk Management at Moi University College of Health Sciences in Eldoret Kenya collaborated to teach an acute trauma course to senior medical students. This course was based on ATLS principles but adapted to the specific needs of medical students who were about to graduate and practice with minimal resources and supervision. The course was designed to be low-cost, easy to set up and implement in a low resource setting.

The course incorporated didactics, simulations, teamwork exercises, skill stations and radiology stations. Simulation and teamwork training were heavily employed during the course. Low cost materials were developed for use in surgical skill stations and simulation exercises. The students also received instruction on the E-FAST exam. This is the first time that point of care ultrasound was introduced to students in a Kenyan public medical school. Three additional courses have been completed so far, with approximately 100 students trained.
The medical students that were trained in 2015 and 2016 have now completed internships in district hospitals across the country, rotating through medical, surgical, OB GYN and pediatric departments. During internship, they were expected to manage a wide array of clinical presentations with limited supervision. However, according to Dr. Anjichi “All of us that took the trauma course are miles ahead of our colleagues when it comes to taking care of injured patients. The Student Acute Trauma course provided a foundation that enables us to know where to start. Each and every injured patient requires a primary and secondary survey. That fact can not be emphasized enough”

Dr. Mustafa Omar works at a different district hospital. He speaks to an improved level of clinical competence that came from participating the student trauma course “The training was pretty helpful for me. I was tasked with putting a chest tube on the first day of my internship. Unlike the other interns who were frantically consulting with their seniors, I comfortably placed it to the amazement of the consultant. Needless to say, I excelled in that rotation”.

All the patients from matatu vs. bodaboda accident survived, said Dr. Anjichi who was rotating through orthopedic surgery when the incident occurred. However, since taking the student trauma course and witnessing its impact on clinical practice, he has developed a particular affinity for Emergency Medicine. “I love helping out at casualty. When people ask me what I want to specialize in, I say Emergency Medicine with no hesitation.”

Further efforts are necessary to bring Dr. Anjichi’s dream of Emergency Medicine training into reality. Currently, there are no opportunities for residency training in Emergency Medicine in Kenya. In fact, the acute management of injured patient inspires fear in many newly trained doctors. The student trauma course created an opportunity to help students confront this fear. Through the use of simulation and the repeated emphasis on a systematic approach, students were able to develop confidence and self-efficacy in their approach to acutely injured patients. “When I see a trauma patient, I will no longer run away”, said Dr. Mohamed Omar at the conclusion of the March 2015 course. “At least, now I know where to start.”

A lot of work remains to be done to address road safety. Bodaboda motorcycles are a cheap means of transportation, but they operate mostly without helmets, are unregulated and a major cause of morbidity and mortality on Kenyan roads. On the medical education front, Kenyan medical students must be trained to deal with the ever-increasing burden of injury in the country. In our experience, a trauma course incorporated into the curriculum as a capstone for graduating students is a useful starting point. This ensures sustainability and guarantees that the course is uniformly taught. Beyond medical school, we continue efforts to create post-graduate opportunities for Emergency Medicine training.

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