

The Global Education Toxicology toolKIT (GETKIT): A One Day Course for Teaching Medical Toxicology in Developing Countries

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Background: Poisoning is a global public health problem, yet there are limited educational opportunities for healthcare professionals in developing countries to learn medical toxicology.

Hypothesis: Attendance at an introductory medical toxicology course for emergency health care providers in the Dominican Republic (DR) and India will improve attendees' medical toxicology knowledge base.

Methods: Faculty and fellows from the American College of Medical Toxicology administered a one day introductory course in the DR (May 2016) and India (June 2016). Lecture topics included: initial management, toxidromes, interpretation of toxicology laboratory testing results, pesticides, pediatric toxicology, hazardous materials, and envenomations. Lectures were administered in either Spanish (DR) or English (India). Two different sets of sixteen pre- and post-course multiple choice questions were used to evaluate baseline knowledge and course content retention, respectively. Qualitative feedback was elicited using pre- and post-course tests. Participants were also asked about previous toxicology experience and course satisfaction in the post-test. We compared pre and post test scores using a paired t-test in SAS 9.3.

Results: There were a total of 41 course participants (n=7, DR; n=34, India) who attended the GETKIT course. Participants' training levels ranged from first to third year emergency medicine residents in three large, urban metropolitan centers (Cabral Hospital in Santiago, DR; Kokilaben Ambani Hospital I Mumbai, India; and Madurai Meenakshi Mission Hospital and Research Centre, Madurai, India). All testing and feedback were anonymous. Mean pre-test scores were similar in both countries (53% DR, 54% India). Mean post-test scores were 72% in both countries. The paired t-test indicated a significant difference between pre- and post-test scores in each country individually and in both countries combined. Most participants (n=36, 88%) indicated that toxicology education was lacking in their medical center, and all participants would recommend the course to their colleagues.

Discussion: The improvement before and after the course is a positive indicator that the course was effective and the results were consistent across country, language, and instructor changes.

Conclusion: A one-day, interactive medical toxicology curriculum to health care providers in countries without toxicology services can be used to deliver essential toxicology education and significantly improve participant knowledge.