Injury Prevention Research Training in Egypt and the Middle East: Opportunities and Challenges

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What We Will Cover:

- How we got here...
  - Brief History of the Injury Prevention Research Training in Egypt and the Middle East program
- What we have done...
  - Accomplishments and challenges
- Where we are going...
  - Opportunities and next steps.
What is Acute Care?

- Emergency Care
- Trauma Care & Acute Care Surgery
- Critical Care
- Prehospital Care
- Urgent Care
- Short-term Stabilization
INJURIES: THE GLOBAL BURDEN

An estimated 5.8 million people in the world lost their lives to intentional and unintentional injuries every year*

(10% of the world’s deaths)

90% occur in Lower and Middle Income Countries

A SOCIAL AND EQUITY ISSUE:
THE POOR ARE THE MOST VULNERABLE

- Trauma has a disproportionate effect on the poor and vulnerable-people with little influence over policy decisions

- The poor are more exposed to risks.
  - Even when they are aware of the risks, they often have little or no choice.

- Limited access to post-trauma emergency healthcare

- Substantial cost to vulnerable individuals
  - prolonged medical care
  - loss of bread-earner due to death or disability
WHO’s Eastern Mediterranean Region (EMRO)
Road Traffic Fatality Rates per 100,000 by WHO Region and Income Groups

Source: Global status report on road safety 2013
Why University of Maryland and Egypt?

• Existing MOHP-UMB Partnership
  • University of Maryland, Baltimore (UMB) and the Egyptian Ministry of Health and Population (MOHP) had an ongoing 25 year partnership based on prior research work.

• Existing UMB Infrastructure in Cairo
  • UMB able to supply technical expertise and assist in infrastructural development

• Prior relationships with multiple Egyptian Universities
Injury Research Training in Egypt and the Middle East Program
PROGRAM OBJECTIVES

• To train health care professionals on injury research and the clinical care of the injured

• To expand research and training opportunities for injury-related research in Egypt and the Middle East

• To emphasize the public health and clinical importance of acute care and to develop sustainable injury research programs
Snapshot of Egypt

- Egypt has 93,383,574 people (2016)
  - Equivalent to 1.25% of the total world population
- Per capita GDP estimated to be $11,000 US dollars (2014)
- High population density
  - Nearly 95% of the population inhabits 5% of the territory
  - About 44% of the population lives in urban areas.
- The illiteracy rate at 15 years of age or older is:
  - 34.6% for women
  - 17.8% for men.
- Life expectancy at birth is 73.7 years.
- Infant mortality rate is 21.6 per 1000 live births.
Acute Care was described by ancient Egyptians over 3000 years ago.
REGIONAL CHALLENGES

• Need to develop relationships, particularly with individuals in governmental agencies
  • Frequent change in key personnel- different attitudes and perspectives

• Poor data collection and research infrastructure

• Financial limitations/Potential instability
  • Limited support for injury prevention activities/Lack of political will
    • Societal instability

• Belief that injuries cannot be prevented

• Lack of leadership and champions

• Lack of strategic direction
Ministry of Health
National Training Institute
Challenges working with the MOHP

- Changing Key Contacts
  - Frequent need to educate new individuals

- Lack of research interest
  - Politicians/clinicians
  - Not researchers

- Other priorities
  - Focused on operations
Ain Shams University (ASU)
OTHER CHALLENGES

• Within the U.S.
  • Regulatory burden
    • Meeting federal, state and institutional financial requirements
    • Increasing visa challenges
  • Changing political environment
    • Ability to bring trainees from different regional countries

• Language barriers
  • Often with written word/publications
PROGRAM DEVELOPMENT

- **Short Course Training**
  - Epidemiology and Research of Injuries
    - Egypt, Sudan, and Saudi Arabia courses
    - Online (blended) courses
      - Current model
  - Sequential Trauma Education ProgramS (STEPS)
  - International Emergency Preparedness and Response (IEPR)

- **Long-Term Training**
  - Intensive U.S. based 6-8 week injury research training course
  - Supported research project upon return
Injury Epidemiology Short Course

- Focus on basic epidemiology and biostatics
  - Introduce concepts and terminology
  - Includes research methodology
- Two week in person course
- Conducted in:
  - Egypt,
  - Sudan,
  - Saudi Arabia (outside funding)
- Implementation of online/blended course
  - Biweekly over 2 months
INJURY RESEARCH TRAINING COURSE

- Train Egyptian and other Middle East physicians in injury research

- 6-8 week U.S. based summer course
  - Review of basic epidemiology with an emphasis on injuries
  - Practical experiences- visits to the Emergency Department, Shock Trauma, Maryland Institute for Emergency Medical Services System (MIEMSS)
  - Education on development, implementation, analysis and presentation of research projects

- Develop practical, mentored research project implement in Egypt or their country of origin
2013 Trainees
Presenting at the U.S. NIH
“STEPS”
Sequential Trauma Education Programs
Why STEPs?

• Critical need for a portable and flexible educational course on the clinical care of injured patients.
  • Requested by Ministry of Health and academic institutions

• Based upon:
  • Multiple fatalities and injuries occurring on the roads in Cairo and other areas in Egypt.
  • Frequent major transportation disasters.
SEQUENTIAL TRAUMA EDUCATION PROGRAMS

• Training of health professionals in clinical care of trauma patients
  • Covers basic to advanced clinical aspects of trauma care
  • Designed for use in lower and middle income countries
• Train the trainers program in clinical care of trauma patients- now training clinicians throughout Egypt
Developing Sustainable Trauma Care Education in Egypt: Sequential Trauma Education Program, Steps to Success

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Introduction

As one of the leading causes of death and disability in the world, human trauma and injury disproportionately affects individuals in developing countries. To meet the need for improved trauma care in Egypt, the Sequential Trauma Emergency/Education ProgramS (STEPS) course was created through the collaborative effort of U.S. and Egyptian physicians. The objective of course development was to create a high-quality, modular, adaptable, and sustainable trauma care course that could be readily adopted by a growing number of hospitals in Egypt and other countries.
Did We Stop There?
Sudan
• Discussions for training opportunities started in 2008
• Injury Epidemiology short course in June 2014
• Initial visit for STEPS: October 2015
• Three STEPS Courses:
  • January 2016, April 2016, January 2017
STEPS in Sudan: January 2016
RESULTS: TRAINEES

• Over 1,000 individuals trained in short course training
  • From Egypt, Iraq, Palestine, Afghanistan, Iran, Sudan, Oman, Saudi Arabia, Yemen, Syria
  • Primarily our STEPS course
    • 14+ Certified Egyptian Trainers.
    • Developing certified Sudanese Trainers

• Trained 59 individuals in long-term injury research training courses
  • Many completing advanced degrees, have faculty academic positions or are in the public sector in their home countries
Research: Selected Doctoral Theses

- Devastating Impact of Injuries on Morbidity and Mortality in Cairo, Egypt in 2007

- Health-Related Quality of Life after Serious Occupational Injury in Egyptian workers

- Knowledge, Attitude and Practice of Family Physicians and Nurses towards Childhood Unintentional Injuries Prevention in Cairo, Egypt
Results: Research & Grants

- **Theses**
  - At least 12 masters and doctoral theses in progress or completed

- **Peer Reviewed Publications**
  - Ten publications related to the program
  - About 20 additional publications by trainees

- **Grants**
  - Eight NIH supplements or outside program related grants
    - Including a NIOSH conference grant and disaster response training grant with World Bank funds
RESULTS: INFRASTRUCTURE

• Ain Shams Medical Student Research Association (AMSRA)
  • Dedicated to accelerating clinical research education among medical students,

• STEPS Course (or equivalent) now required:
  • Egyptian Board of Emergency Medicine
  • Alexandria University- Masters in Emergency Medicine
  • Ain Shams Department of Surgery- Masters in Surgery
Young Egyptians’ perceptions, attitudes and knowledge of injuries

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Abstract

The objective of this study was to qualitatively assess the knowledge and behavior towards injuries among Egyptian youth. In 2015, a study was conducted in Cairo, Egypt to investigate injury prevention behaviors and perceptions of high school students. The study involved 500 students from 10 high schools. The study found that the concept of "haddath" (accident) is not perceived as the result of human actions. Educated Egyptians are interested in injury prevention metrics.

INTRODUCTION

Injuries are a leading cause of death and morbidity and mortality in Egypt. The number of deaths due to injuries in 2015 was 127,316, with 322,000 hospitalizations reported in 1999. Road traffic accidents are a major cause of injury-related deaths and hospitalizations. The study aimed to understand the knowledge and attitudes of high school students towards injury prevention in Egypt. The study found that the concept of "haddath" is not perceived as the result of human actions. Educated Egyptians are interested in injury prevention metrics.

Knowledge, Attitudes, and Practices of Family Physicians and Nurses Regarding Unintentional Injuries among 15 Years in Cairo, Egypt

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Abstract

Unintentional injuries are a leading cause of death among children, with 50% of all injuries occurring in the home. In Egypt, approximately 60% of injuries are preventable. Falls and road traffic crashes are the leading causes of injury. The study found that the concept of "haddath" is not perceived as the result of human actions. Educated Egyptians are interested in injury prevention metrics.

Epidemiology of acute poisoning in children presenting to the poisoning treatment center at Ain Shams University in Cairo, Egypt, 2009–2013

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Abstract

Introduction

Pediatric poisonings represent a major and preventable cause of morbidity and mortality worldwide. The study aimed to determine the epidemiology of acute poisonings in children presenting to Ain Shams University’s Poisoning Treatment Center (ASU-PTC) in Cairo and determine the causative agents and characteristics of acute poisoning in several pediatric age groups.

Methods

This retrospective study involved acutely poisoned patients, 0 to 18 years of age, who presented to the ASU-PTC between 1/1/2009 and 12/31/2013. Data were extracted from electronic records maintained by the ASU-PTC. Collected data included demographics, substance of exposure, circumstances of the poisoning, patient disposition, and outcome.
OPPORTUNITIES:

• Existing and expanding relationships
  • Developed connection within Africa through the 3rd African Conference on Emergency Medicine Cairo, Egypt
  • Multiple program alumni in Egypt and Sudan
  • Allow for expansion to other institutes and academic centers
  • Existing alumni network to support each other

• Strong interests among young, academic health care providers
  • In Egypt, New regulations for academic promotion require international publications
OVERALL LESSONS LEARNED

- Allow adequate time for planning
- Be flexible!
  - Disasters occur
  - Assess the level of the audience and adapt the program as needed
- Allow adequate time for discussion
- Be culturally sensitive
- Identify key partners
- Collaborate
- Learn from each other
- Enjoy the experience
NEXT STEPS

- Conduct STEPS at:
  - Suez Canal University, Egypt
  - Sudanese Medical Specialization Board, Khartoum
  - Other countries in the Middle East and East Africa

- Continue training activities
  - Long-term injury research training
    - Eight trainees for Summer 2017
  - Short course trauma care, injury epidemiology (online)

- Expand the training program to other countries within the Middle East

- Continue collaborating with WHO EMRO office
Specific Planned Activities

- Projected publications (2017)
  - Occupational injuries among children working in furniture factories in Damietta, Egypt
  - Substance Use among Injury Patients Admitted to Ain Shams University Hospital in Cairo, Egypt
  - Prevalence of Restraint Use Among Selected Hospitalized Elderly Patients in Cairo, Egypt, in 2014 (submitted)

- Continue the expansion of training programs in Sudan and through our online (blended) courses

- Expand work with the Substance Abuse Research Center (SARC) Jazan University, Saudi Arabia
If you want to go fast, go alone
If you want to go far, go together
African Proverb
Collaborative Partners
Thank You for your Attention

Egypt
The Rebirth of a Great Nation