

registries and design population-based educational interventions in a developing country setting.

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(A17) Epidemiology of Non-Vehicular Trauma Patients in the Prehospital Setting in India

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Background: Non-vehicular trauma (NVT) accounts for 8% of all calls to the GVK Emergency Management and Research Institute (EMRI), which provides prehospital emergency care to 85 million residents of Andhra Pradesh, India. This study describes the characteristics and outcomes of patients with NVT transported by GVK EMRI.

Methods: All patients with NVT were prospectively enrolled over 28 12-hour periods (equally distributed over each hour of the day and day of the week) during July/August 2010. Patients not found at the scene, refusing service, or reporting self-inflicted injuries were excluded. Real-time demographic and clinical data were collected from prehospital care providers using a standardized questionnaire. Follow-up patient information was collected at 48-hours and 30-days following injury.

Results: A total of 1,569 patients were enrolled. Follow-up rates were 72% at 48 hours and 71% at 30 days. The mean patient age was 40 (SD = 18) and 67% were male. Adults (ages 18–64) accounted for most patients (80%), followed by elderly (age > 64, 12%) and children (age < 18, 8%). Of the patients, 71% were from rural/tribal areas and 89% from lower socioeconomic strata. Eighty-two percent called within 1 hour of injury. Median call-to-scene time was 19 minutes (SD = 15) and scene-to-hospital time was 25 minutes (SD = 21). Most patients suffered blunt injuries (85%) with falls accounting for 43% of all injuries. Of the injuries, 56% were accidents and 43% assaults. Most injuries involved head/neck (48%) and extremities (44%). Cumulative mortality rates prior to hospital arrival, at 48-hours and at 30-days were 1.1%, 3.2%, and 4.9% respectively. Falls accounted for 69% of all deaths. Falls and age > 65 were predictors of mortality ($p < 0.0001$). Of NVT survivors, 56% returned to baseline function and 28% were in significant pain or bed bound at 30-days post-injury.

Conclusion: This initial study of prehospital NVT patients in India reveals that falls and elderly age were highly associated with death.

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(A18) The Influence of Status and the Patterns of Driving License Ownership Toward the Gradation of Open Fractures According to Sardjito Scoring System Suffered by Motorcycles Accident Patients in Emergency Department of Saiful Anwar General Hospital from April to June 2010

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Introduction: 3880 fracture patients are admitted in the Emergency Department of Saiful Anwar General Hospital from January to August 2009. It signifies to the second place of the cause of patients' admission. Most cases are motorcyclist victims from road traffic accident. Driving license is encouraged by the government to reduce the number of road traffic accident victims.

Methods: This study utilizes observational with cross sectional study and purposive sampling to correlate the relationship between status of motorcycle driving license ownership and the obedience of traffic law, the relationship between the patterns of motorcycle driving license ownership and the obedience of traffic law, and the relationship between the obedience towards traffic law and the gradation of open fractures among motorcyclist victims in accordance with Sardjito Scoring system.

Results: Most patients have no driving license. And those who has driving license, mostly have never undergone driving license test. Patients with open fractures of cruris come with severe Sardjito scoring system, open fractures of antebrachii with moderate Sardjito scoring system, and open fractures of femur with moderate Sardjito scoring system.

Discussion: It is strongly related between the ownership of driving license and road traffic accidents. The most road traffic accidents cases of are open fractures of cruris, open fractures of antebrachii, and open fractures of femur respectively. High obedience and strict use of personal protective equipment (safety helmet, glove, and jacket) would be effective in mitigating road traffic accident injuries.

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(A19) Establishing a Trauma Registry at the National Referral Hospital in Thimpu, Bhutan

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Background: The burden of traumatic injuries is increasing in Bhutan. Data from the Ministry of Health of Bhutan (MoH) indicates that the number of injuries has increased 37% from the years 2004 to 2008. Current data on demographics, cause, and outcome of injuries is not well documented, leaving the MoH with insufficient data to guide policy decisions. The MoH and the Bhutan Foundation have prioritized development of a national trauma registry in Bhutan, starting with a trauma registry at Jigme Dorji Wangchuck National Referral Hospital (JDWNRH).

Objective: To design and implement a sustainable tool for the collection and storage of data describing trauma patients at JDWNRH.

Design and Methods: The trauma team defined trauma as any injury that requires an evaluation, intervention, or admission to the hospital. A paper based tool was designed by consensus to collect data on demographics, injury type, injury location, injury severity, treatments and outcomes. A hospital based system to processes the data into Microsoft Access was established and data collection began in September 2010. Monitoring is ongoing to ensure the reliability of data.

Discussion: During a four month period, with a team of physicians, government officials and public health staff developed a model trauma registry. The registry emphasized simplicity in design and execution and will serve as a stepping stone for a nation-wide trauma registry. Data collected from JDWNRH will provide the MoH with a detailed set of injury data to help with policy and resource utilization decisions. Logistical and technical challenges of developing a trauma registry are similar across health systems and this data collection tool and the lessons learned could be adapted to fit other institutions or health systems worldwide.

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(A20) Injury Pattern and Disaster Plan for Landmines and Improvised Explosive Device Blast

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Landmines and improvised explosive device (IED) explosions induce bodily injuries through the primary, secondary, tertiary, and quaternary mechanisms of blast among civilians, mostly children which results in a complicated, multidimensional injury pattern. If > 80 percent of countries can ensure the security of their borders without using anti-personnel mines, surely India can too. A change in mindset and a change in defense doctrine are needed, as well as an UN-backed world body campaigning against the use of landmines to urge the Indian government to sign a global treaty to ban the weapons. An estimated four to five million anti-personnel mines exist in India, which is the sixth-largest stockpile in the world. Non-state armed groups in the central, southern, northern, and northeastern regions frequently have used anti-personnel mines and improvised explosive devices to target convoys of soldiers and civilians. Using historical, current research and related literature reviews, this study provides description about the types of explosion, the device, pattern of injury, prehospital and emergency department care, and challenges for the disaster plan. Hand amputation is the most common type of upper limb amputation (more common among the 7–18-year age group) and below-knee amputation is the most common type of lower limb amputation. Using these data, a focused disaster response for future attacks has been created. It includes the planning, monitoring, and coordination of all aspects by hospitals and the regional disaster system's plan—"upside-down" triage—the most severely injured arrive after the less injured, which bypass emergency medical services (EMS) and go directly to the nearest hospitals. Details about the nature of the explosion, potential toxic exposures and environmental hazards, and casualty location from police, fire, EMS, health department, and reliable news sources must be recorded.

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(A21) Injury Patterns of Blast Type Antipersonnel Land Mine Victims

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Anti-personnel land mines are deployed in many regions of conflict around the world. A large number of civilians and militants are affected regularly due to the blasts of such mines. Once set,

they remain as silent concealed killers for decades and challenge the safety of the civilians even during the times of peace. A descriptive study was carried out at the Anuradhapura Teaching Hospital during a six month period starting in July 2007. The total number of anti-personal land mine injuries admitted during this period was 89. In all cases, the body part primarily in contact with the mine had been a lower limb. Except for few occasions, extensive soft tissue damage associated with compound fractures necessitated some form of an amputation for those limbs in primary contact with the blast mines. Closed fractures of the calcareous, talus, and the tarsal bones were seen in two cases. Nearly two thirds of the patients sustained either soft tissue or bone injuries to the opposite lower limb. Twelve percent of the victims had compound fractures on the opposite tibia and fibula. Injuries to external genitalia were seen in 8% of the cases. Upper limb injuries were not rare and predominantly found on the contra lateral upper limb (17%). The majority of them were soft tissue injuries. Chest wall injuries were seen among 2% of the cases. Superficial facial injuries were seen among 7% of the cases. In one occasion a gingival injury was detected. Seven percent of the victims developed deterioration in level of consciousness. None of them clinically showed any external physical trauma to the head. In some instances, the Glasgow Coma Scale (GCS) was ranked as 7 in which tracheal intubation and ventilation were needed. It was evident in this study that the majority of the affected patients sustained severe injuries in both lower limbs in contrast to some of the previous available studies.

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(A22) Impact of Karachi Terrorist Bombing on an Emergency Department of a Tertiary Care Hospital

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Objectives: The objective of this study was to collect epidemiological injury data on patients presenting to the emergency department of a tertiary care hospital after the bombing on 29 December 2009.

Methods: This was a retrospective review of the medical records of the victims that were brought to a tertiary care hospital. Bombing victims were described as requiring acute care due to the direct effect of the bombing.

Results: The results are derived from a sample size of 198 bomb blast victims, most of which were first transported to government hospitals by private cars rather than ambulances. After the government announced free treatment, there was a wave of patients, among which, most were stable and already had received some form of treatment. Approximately 5–6 patients who had life-threatening injuries were brought directly to the tertiary care facility and needed surgical intervention. The lack of security in the emergency department could have lead to another terrorist activity. There were no procedures done in the field as there is lack of emergency medical services training in Pakistan, but in the hospital most of the interventions included intravenous (IV) lines, wound care, and laceration repair. The most common treatments included