outside in spite of the zone being declared safe to enter, by the controlling authorities. 11% of "red patients" were down-triaged and 30% of yellows were "over-triaged." A significant bottle-neck developed between field triage zone and transport zones.

Conclusions: Our group has conducted disaster drills in several large cities in Sri Lanka, India and the Dominican Republic. Expanding focus to document time-stamps and triage accuracy highlighted need for more robust triage training, allowing local agencies to prioritize training for EMS responders in the coming months. Demonstrating how inaccurate triage could potentially overwhelm the system helped local agencies recognize the need to train first responders in START triage.

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(A149) Medicine at Sea

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Cruising has become a major part of the tourist industry. In 2010, the total passengers carried worldwide was estimated at 18.4 million, on about 230 cruise ships. Large ships can hold up to 6,000 passengers and > 2,000 crew members. A large cruise ship is rather like an island, with two different communities: the well-trained crew, hopefully prepared for every eventuality and trying to make their guest's stay as pleasant as possible; and the guests, there to have fun. The guest population varies, with up to 40% under 21 years old during school breaks, and the average age is in the fifties or sixties on longer cruises to scenic places such as Alaska. Most of the time ships cannot be reached by helicopter and the medical teams need to cope with a wide range of emergencies from cardiopulmonary, trauma, and psychiatric issues. There are strict public health measures enforced and a range of legislation reducing the risks of cruising to a minimum. This paper reviews the training of the crew for medical emergencies, the incidence of disease, the incidence of medical disembarkation and major incidents on board, and the role of medical teams.

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(A150) Development of Emergency Medical System in High Speed Train and Station

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Introduction: High speed train is defined as train which can run at the speed of more than 200Km/h and Korean version of high speed train (Korean Train Express: KTX) runs at 300Km/h on average. Because of high speed, safety is the most important issue of high speed train, so the early detection of technical error and operational safety have been emphasized. But the research about emergency medical system for patients occurring in the high speed train and stations is insufficient. So author analyzed the project on development of emergency medical system for cardiac arrest in the high speed train and stations.

Methods: The project on development of emergency medical system for cardiac arrest in the high speed train and stations was analyzed retrospectively and the real situation was confirmed by interviewing the staffs and visiting the high speed train and stations. The education on both basic life support and PAD (public access defibrillation) for staff of the high speed train and stations was analyzed. Simulation was perfomred for adequate distribution and arrangement of AEDs (automatic external defibrillators) in the high speed train and stations.

Results: The education on both basic life support and PAD (public access defibrillation) for staff of the high speed train and stations was performed to 1323 persons from October 2008 to June 2009. Total 51 AEDs were arranged in 6 stations and 87 AEDs were arranged in the high speed train. One AEDs were arranged for successive 6 passenger car in a train. Public education by repeated video playing in the high speed train was started.

Conclusions: The emergency medical system for cardiac arrest in the high speed train and stations was developed by training staffs and arranging AEDs initially. The next step will be developing the disaster medical system in the high speed train.

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(A151) The Situation of Reporting Road Traffic Accidents Resulting In Injury and Death in a Suburban Roadway: A Cohort Study

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Introduction: The prerequisite of improving the situation of traffic accidents and injury prevention is to set up a "Road Traffic Accident and Victim Information System (RTAVIS)" which does not exist in Iran. The objective of this study was to compare the three major sources information including police, emergency medical service and hospitals to show the necessity of integrated road traffic injury surveillance system.

Method: This prospective cohort study has been done by pursuing each road traffic accident (RTA) case within 30 days of its occurrence by a draft questionnaire and data pooling from participating sources during one year.

Results: In this study, after aggregating/ pooling the data from all organizations, it was finally revealed that during one year 254 injury crashes happened in Tehran–Abali road (with 45 Kilometer distance) in which 434 people were injured or died. Out of these injury crashes, Police and Emergency Medical Services (EMS) stated to be unaware of 67 and 51 cases, respectively. In other words, Police, prehospital emergency service and hospital have reported 56.2% 82.9% and 76.4% of the entire number of injuries or deaths respectively.

Conclusion: None of the information sources including police, EMS and health care facilities has complete information about injuries and deaths caused by traffic accidents. It seems that formulating and implementing a centralized and multidisciplinary data collection system of national traffic accidents with the collaboration of police, Ministry of health and medical education

(EMS and medical centers), forensic medicine, and Iranian Red Crescent is necessary.
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(A152) Is There a Need to Reconsider the Policy of Evacuating All Casualties from Remote Mass Casualty Incident (MCI) to the Closest Hospital? Lessons Learned from a Rural MCI

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Background: Inappropriate distribution of casualties in mass casualty incidents (MCIs) may result in patient overload in primary medical facilities.
Objective: The aim of this study was to review the consequences of evacuating casualties from a bus accident to a single rural hospital and lessons learned regarding policy of casualty evacuation.
Methods: Hospital medical records of all casualties from primary and tertiary hospitals were independently reviewed by two senior trauma surgeons. In addition four senior trauma surgeons reviewed the impact of treatment provided in the primary hospital on patient outcomes.
Results: 31 survivors from the accident were transferred to the closest local hospital; 4 died en route to the hospital or within 30 minutes of arrival. 27 casualties were air evacuated from the local hospital within 2.5 to 6.15 hours to level I and II hospitals. Under-triage of 15% and over-triage of 7% were noted. 4 casualties did not receive treatment at the local hospital that might have improved their condition.
Discussion: Over and under-triage might have been due to minimal trauma related experience of primary hospital personnel. Evacuation of casualties from an MCI to a limited capacity hospital may overwhelm the facility and affect its ability to provide appropriate medical care.
Conclusions: In MCIs occurring in rural areas, only immediate unstable casualties should be transferred to the closest primary hospital. On-site Advanced Life Support (ALS) should be administered to non-severe casualties until they can be evacuated directly to tertiary care hospitals. First responders must be trained to provide ALS to non-severe casualties until evacuation resources are available.
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(A153) Does Prehospital Delay Change Trauma Outcomes in Mumbai?

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Introduction: Prehospital delay in trauma victims has been associated with worsened trauma outcomes, and forms the basis of emergency medical services (EMS). Survival rates of severely injured patients with life and limb threatening trauma were studied and corrlated with prehospital delays in Mumbai, India, where there is no central EMS system.
Methods: From October 2010 to March 2011, a researcher collected Injury Severity Score and prehospital time delay data in all severely injured patients arriving at the Trauma Centre. The time of injury, and time and mode of transport to the Trauma Centre were recorded, along with the details of the injury and the physiological parameters upon admission. Information regarding time and place of the crash, arrival to a trauma care facility, injuries, and survival were noted.
Results: A taxicab was the most common mode of transport followed by a police van, private ambulances, and government ambulances. Patients reached the Trauma Centre more quickly when accompanied by relatives or police, and took longer if they were examined at peripheral centers, were unknown victims, or arrived by Government ambulances. Better outcomes were observed in patients with informal carers. The majority of the victims presented within three hours of trauma.
Conclusions: Prehospital delay did not correlate well with poorer outcomes. Further research is needed to determine how many injured die on the way to the hospital in countries without a formal EMS system. Implementation of a high-cost, state-funded EMS system in a congested, resource-poor, urban setting must be balanced with the insufficient evidence about whether prehospital field interventions actually improve survival outcomes.
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(A154) Overcrowding of Ambulances at the Scene of a Disaster: Pitfalls and Implications

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Introduction: Pakistan is a developing country with a basic prehospital system in some cities. The prehospital services are a mixture of government and private ambulances.There is no central regulatory body for them and no central command to control the influx and out flux of ambulances from the scene.
Objective: In this paper, five episodes of terrorist incidents in the country and will try to estimate the number of ambulances on the scene.
Methods: Retrospective data was collected and triangulation was done by three sources: (1) ambulance records; (2) visual estimation; and (3) print media. An estimate of total ambulances was reached along with dead and injured. Furthermore medical transport capacity was calculated where possible.
Results: In majority of the incidents, it was found that there was a huge influx of ambulances beyond the need. This further adds to the chaos and confusion already present on the scene of disaster.
Conclusions: A Command and Control Center should be established to direct all ambulance control and movements.
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