

In February 2007, a working meeting and an expert meeting occurred in which inventories were made of the current questions and networks. The outcome of these meetings will be presented, as well as the lessons learned from establishing a national AMAAD.

Keywords: Academy for the Medical Assistance in Accidents and Disasters (AMAAD); disasters; knowledge; research

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Comparative Analysis of Medical Needs and Living Conditions in the Sub-Acute Phase of the Iran Earthquake and Sri Lanka Tsunami Disaster

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Objective: The objective of this study was to clarify typical characteristics of medical needs and living conditions in the sub-acute phase of the Iran Earthquake and the Sri Lanka Tsunami Disaster.

Methods: The study was performed by interviewing displaced persons in the refugee camps using a questionnaire sheet and by examining the status of the medical needs and living conditions (including the water and sanitation situation, and insect bite situation).

Results and Discussion: Medical needs of displaced persons from the Iran Earthquake included: respiratory disease (50%), trauma (33%), and mental problems (8%). Living conditions such as water were maintained fairly well, although in several cases people did not have access to a toilet.

For the Sri Lanka Tsunami disaster, physical trauma was the most common medical need, affecting 24% of those interviewed. This was followed by respiratory disease (14%), skin disease (11%) and mental problems (7%). Water and sanitation conditions were relatively good.

Conclusions: The following conclusions were made:

1. Typical characteristics of medical needs in the sub-acute phase of earthquake- and tsunami-related disasters are respiratory disease, mental problems, and trauma.
2. Information obtained from formal surveys provide valuable data for disaster relief planning.

Keywords: analysis; Iran; needs; research; Sri Lanka

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Digital Screening in Trauma Care Centers: A Case Study with the Save Accident Victims Association of Nigeria (SAVAN)

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Trauma care centers are known for their workload on health care providers, especially during disasters or mass casualty events due to road traffic accidents. The prioritization of patient care leaves little time or opportunity for routine research or for screening for causative factors, although alcohol and substance abuse may be causative factors of many unintentional injuries. Because of the absence of the availability to rapidly screen patients for such factors, Save

Accident Victims Association of Nigeria (SAVAN) introduced digital alcohol breathalyzers, to determine blood alcohol concentration, and digital oral screen machines, in order to screen for substance abuse in local trauma care centers. The oral screen machine uses saliva to identify cocaine, heroin, cannabis, and amphetamine in patients abusing such substances.

A tertiary health institution was selected for the pilot study. During a trial period of six months, approximately 43% of road traffic accident victims had an elevated blood alcohol concentration, while 2.5% of victims tested positive for other substance abuse. The influence of alcohol and other substances occurred more frequently in males than females (ratio: 3:1), and in the age group 21–30 years. Among those tested, alcohol followed by cocaine. Of the 2.5% that tested positive for substance abuse other than alcohol, 87.5% were drivers who transported logs from the forest to a sawmill.

Digital screening for alcohol and substance abuse should be encouraged in all trauma care centers to facilitate further research on this subject.

Keywords: alcohol; digital screening devices; Save Accident Victims Association of Nigeria (SAVAN); substance abuse; traffic crashes

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Session 2

Chairs: Joost L.M. Bierens

Toward a Generic Method for Evaluation and Assessment of Medical Management in Large-Scale Disaster Drills

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Introduction: This study aims to demonstrate progresses in developing a generic method for evaluating medical management in live exercises by applying a newly designed method and technology.

Methods: In a simulated building explosion (112 victims), time schedules concerning triage, evacuation procedures, medical treatment, and MDS' positions were recorded by trained observers and complemented by other data, such as radio communications, pictures, videos. The CITE® Explorer software was used to integrate, index, and present all data. The quality of medical care quality was evaluated analyzing timing and treatment accuracy for four groups: Airways (A), Breathing (B), Circulation (C), and Other (O). Contingency tables and non-parametric tests were used to compare treatment and timing. Radio communication and position tracking were used to evaluate decision-making, command, and control.

Results: The correct, under- and over-triage rates were 84%, 11%, 5%, respectively. Evacuation times for the crash and the Advanced Medical Post were established. Correct maneuvers were 85.2%, 78.7%, 65.6%, 57.4% in A, B, O, and C groups, respectively, with significant differences in A vs. C ($p < 0.0001$) and B vs. C ($p = 0.0009$) groups and for

A vs. O ($p = 0.0018$) and B vs. O ($p = 0.039$) groups, but not for A vs. B or C vs. O groups. A total of 246 radio calls were qualitatively classified according to contents.

Conclusions: The integration of data enables a combination of qualitative and quantitative data to link treatment and outcomes to patient management. On that basis, it is possible to consider agency-specific evacuation protocols, poor resource utilization, and different education levels among rescue personnel.

Keywords: assessment; disaster drills; explosion; treatment and timing; triage

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Pediatric European Network for Treatment of AIDS (PENTA): Development of a Pediatric Trauma Registry in Flanders, Belgium

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Funded by the Flemish Fund for Scientific Research FWO "Levenslijn Kinderfond's".

Objective: To collect epidemiological data on trauma and trauma care among children and adolescents in Flanders, Belgium, as available data are fragmentary and out-of-date.

Methods: The Pediatric European Network for Treatment of AIDS (PENTA) network prospectively collected data in a representative sample ($n = 18$) of Flemish emergency departments (ED). All children (age 0–18 years) who presented at the ED in 2005 or died prehospital due to trauma were included. The basic "A" registry consisted of 30 variables, the more exhaustive "B" registry (defined for severe trauma as the length of hospitalization exceeding 48 hours, including all non-survivors) consisted of 291 variables.

Results: The incidence of pediatric victims of trauma presenting at a Flemish ED was approximately 110/1000/year. Additional data were collected in a random sample of 7,875 cases (24% of all patients). The mean age of the cohort was 9.6 ± 5.5 years; 59% were male. The majority of injuries were minor in severity. Hospital admission was needed for 6.6% of patients, mostly for <48 hours. Of all cases, 0.8% were considered severe and included in the "B" registry (median injury severity score = 9, Interquartile range = 13). Of these patients, 10% were discharged eventually with moderate to severe disability, and 6.1% died.

Conclusions: The epidemiological data collected by PENTA on pediatric trauma in Flanders will be used for specific research, will aid prevention initiatives, and guide decision-making. Eventually, they will be used for auditing trauma care.

Keywords: epidemiological data; Flanders; pediatric; registry; trauma

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Research on Increase of Effectiveness of Prehospital Triage in Mass Casualty Incidents with Application of the WASKOs Command Center Support System

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The Polish rescue system is forced to react to an increasing number of Mass-Casualty Incidents (MCIs). In such extreme situations, correct prehospital triage plays a key role in the organization of emergency care both at scene of the event and at the Emergency Departments (EDs). The Polish rescue system uses popular methods of triage based on START, JumpSTART, and Triage SIEVE (sort) systems. The objective of the research was to evaluate the opportunities for using digital technologies currently available in management support systems and telemedicine to increase the effectiveness of prehospital triage.

The research was conducted at the 2nd Polish Winter Championships in Emergency Care that were held in Szczyrk and participated by 40 ALS teams. An MCI was simulated in which 30 people were injured. After the first triage, re-triage effectiveness, transport priorities, and casualties allocation to local EDs were evaluated using the Command Centre Support System (CCSS). A subjective assessment of digital technology implementation opportunities was made based on survey.

Digital technology implementation resulted in the provision of more effective emergency care both from patients triage accuracy, transport priority, ED allocation, and from the point of view of time required to perform triage and emergency care management compared to methods based on traditional procedure and transmission of patients information and particulars.

Implementation of digital technology increases the effectiveness of emergency care in MCIs. A subjective assessment of digital technology skills implementation explicitly correlates with availability of technology in everyday rescue and medical practice.

Keywords: digital technology; mass-casualty event; simulator; triage

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Earthquake Preparedness for Foreign Residents in Sendai

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Introduction: Earthquakes frequently occur in Sendai, Japan. There exists a 99% probability that a strong earthquake will occur in Sendai within the next 10 years.

Objectives: This survey sought to answer several questions about the knowledge of foreign residents regarding earthquake preparedness and their response to the earthquake that occurred on 16 August 2005 in Miyagi. It also addresses the difficulty in accessing relevant information on earthquake preparedness.