<25% of FLHPs in their country could discriminate between a man-made versus a natural incident involving CBRN agents. Sixty percent of the responding experts (38) believe that FLHPs in their country are better trained for natural incidents.

All responding experts report that they are aware of an operational plan to manage CBRN incidents in their country, and experts from 10 MS report that they are aware of such preparedness plans at all administrative levels (national/federal, regional and local).

When comparing the answers received from the two questionnaires, the experts tend to underestimate the proportion of FLHPs in their country who are able to deal with a chemical, biological, or radiological incident. At the same time they are aware of the fact that FLHPs do not have knowledge of the existing plans in their country and administrative level.

Keywords: biological; chemical; knowledge; nuclear; preparedness; public health; rapid response; threats; training

(232) Epidemiology: The Essential Tool of Disaster Risk Management in the Health Sector

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Introduction: This article introduces the national and international evidences of the application of epidemiology, as an essential tool of health risk management in disasters.
Needs of Disaster Risk Reduction Information: Regarding ISDR, a disaster is a function of the risk process. The success of an integrated disaster risk reduction (DRR) approach implementing the fields of actions depends on the accurate information on hazards, vulnerability and capacity.
Applications of Epidemiology in DRR: Epidemiological researches can provide needed information in health sector, both population and system-based, on risk awareness and assessment, hazard analysis and vulnerability/capacity analysis, knowledge development; public commitment and actions, partnership, networking and early warning systems.
Disaster Epidemiology: As a developing branch of health science, disaster epidemiology needs more theoretical work and standardization of methods and tools. Translating the results of epidemiologic research into practice is the integral part of the disaster epidemiologists' efforts in the future. Based on lesson learned from Bam earthquake, Iran 2003, Health Emergency & Disaster Department (HE&DD) has been established as the first academic department in Eastern Mediterranean Region (EMR) focusing on DRR in health system.
Conclusions: In the context of disasters, epidemiology goes beyond the issues of diseases alone; it not only covers all aspects of health outcomes in humans, but also the process of disaster risk management. Regarding effective decision making in disasters, training and application of Disaster Epidemiology should be integrated into disaster risk management of health sector.

Keywords: epidemiology; information system; risk reduction; disaster

(233) International Athens Airport (IAA) and the Use of Automated External Defibrillation (AEDs) by the Workers

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Introduction: The use of automated external defibrilators (AED) is a new link in the chain of survival for victims of out-of-hospital cardiac arrest. With basic life support, AED can be used by individuals other than medical officers. Early defibrillation can and should be performed by specially trained bystanders.
Case Report: A 55-year-old man presented with sudden cardiac arrest in the International Athens Airport (IAA). Basic life support was performed by trained bystanders and IAA personnel. Defibrillation was delivered using an AED <5 minutes from the arrest with successful conversion to spontaneous circulation. The patient then was cared for by the Emergency Physicians of the IAA Medical Service six minutes after the first call, and admitted to a cardiology intensive care unit. An AMI was treated by angiography-angioplasty. The patients' outcome was favorable, as the patient was discharged 11 days after the occurrence of the cardiac arrest. Three other similar cases occurred with favorable outcome.
Conclusions: The time interval before the delivery of the first shock clearly is a determinant for survival after pre-hospital cardiac arrest. Use of an automated external defibrillator by individuals other than physicians, can contribute to an earlier defibrillation.

Keywords: airport; automated external defibrillation; defibrilation; Greece

(234) Clinical Profile of Patients Presenting with Dengue Fever in an Emergency Department at an Urban, Tertiary-Care Hospital during the Outbreak in 2005

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Objective: To study the clinical profile of patients with dengue fever (DF) presenting to the emergency ward of an urban, tertiary-care hospital during the outbreak in 2005.
Methods: The study was conducted in the Emergency Department at the All India Institute of Medical Sciences, New Delhi from August to October 2005. All patients testing positive for IgM and/or IgG antibodies were included.
Results: Of the 119 cases included, DF was diagnosed in 58 (48.7%), DHF in 53 (44.5%), and DSS in 8 (6.75%) cases. The predominant presentations were fever (100%), rash (24.3%), abdominal pain (16.8%), seizures (1.6%), and retrorbital pain (0.8%). Bleeding manifestations were observed in 56 (47%) cases. Petichiae (13%), hemetemesis (10.9%), gum bleeding (10.1%), subconjunctival hemor-

rhage (9.2%), and multiple sites bleeding (11.7%) were noted frequently. The mean platelet count noticed in DF, DHF, and DSS were [50 ±27.4, 46 ±31.1, 42 ±26.0 * $10^3/mm^3$] respectively. In DF, DHF, and DSS, the mean serum bilirubin was recorded as the mean values for 0.8 ±0.27, 0.9 ±0.3, 0.9 ±0.5 mg/dl (p = 0.9) respectively were 123 ±88.5, 120 ±93, 112 ±37 IU, ALT was 108 ±48, 109 ±70, 107 ±36 IU (p = 0.01), and for serum alkaline phosphatase (SAP) mean values were 138 ±53, 124 ±52, 153 ±26 IU (p = 1.7). All patients recovered, except one who succumbed due to an intracranial hemorrhage.

Conclusions: Fever, rash, abdominal pain, bleeding manifestation, and thrombocytopenia were the predominant features. Significant elevations in transaminases along with normal serum bilirubin and SAP values were observed. Prompt diagnosis and judicious therapy is the key in managing an outbreak in an emergency department.

Keywords: dengue fever; hospital; India; outbreaks; clinical presentations
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(235) Ultrasonography as a Diagnostic Marker in Dengue and Other Viral Febrile Illnesses Presenting with Thrombocytopenia

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Purpose: This study assessed sonographic findings and evaluated its diagnostic efficacy in dengue and other viral febrile illnesses with thrombocytopenia.

Methods: The study was conducted in the Department of Radiology at Yashoda Hospital, a 250 bed healthcare center in the city of Ghaziabad, India between September and October 2006 during the outbreak of dengue in the region. Patients with short febrile illness with thrombocytopenia undergoing sonography were included. Those with known hematological disorders or systemic illnesses causing thrombocytopenia were excluded.

Results: Of the 169 patients, 56 (33.1%) were IgM positive, 51 (30.2%) for IgG, and 34 (20.1%) were positive for both antibodies. The mean platelet count was 53,000/mm³. Gallbladder edema was seen in 122 (72.2%), hepatomegaly in 78 (46.2%), ascites in 126 (74.6%), splenomegaly in 66 (39.1%), right pleural effusions in 48 (28.4%), pericholecystic fluid in 63 (37.3%), pericardial fluid in four (2.3%) and perinephric fluid collection in 24 (14.2%) patients. Mean platelet counts were significantly lower in sonographically positive than in negative patients (51,510 and 66,280/mm³, respectively; p = 0.000). A poor correlation was observed between sonographic evidence of disease and serological markers of dengue and the platelet counts (Pearson's correlation coefficient 0.365, and 0.064 respectively). Sonographic findings appeared as early as three days of pyrexia and complete resolution of the findings was the rule.

Conclusions: This study reiterates the fact that ultrasound is an important diagnostic marker for dengue and other viral febrile illnesses with thrombocytopenia. Since it is inexpensive and noninvasive, it may reduce the diagnostic utility of serological tests.

Keywords: dengue; diagnostic marker; thrombocytopenia; ultrasonography, viral febrile illnesses
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(236) Laboratory Profile of Patients Presenting with Dengue Fever in an Emergency Department at an Urban Tertiary Care Hospital during the Outbreak in 2006

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Objective: The aim of this study was to assess the clinical profile of patients presenting to the emergency ward of an urban tertiary care hospital with dengue fever during the 2006 outbreak.

Methods: The study was conducted in the Emergency Department at the All India Institute of Medical Sciences in New Delhi between August and October 2006. Information from all patients presenting with a short febrile illness and found to have thrombocytopenia were included in the study.

Results: Of the 3,707 cases assessed, 2,834 (76.4%) were males; there was a similar distribution of other parameters between both sexes. The mean (±SD) age was 25.5 ±12.83 years; the mean hemoglobin concentration was 12.5 ±3 g/dL, the mean hematocrit was 36.9 ±8.3) the mean platelet count was 50,875 ±22,090/cmm; and the mean total leukocyte count was 6,392 ±3,778/cmm. During the outbreak, 15 (1%) patients died due to dengue hemorrhagic fever and shock. The mean age of the patients who succumbed to the illness was 33.6 ±16.13 years compared to 25.48 ±12.8 years in those who recovered; (p = 0.072). The platelet counts of the patients who died were significantly lower (39,571 ± 18,923/cmm) than those who recovered (50,918 ± 22,093/cmm) (p = 0.043).

Conclusions: Young males were noted to be more susceptible to dengue fever during the recent outbreak of this disease in parts of northern India, but the illness was more severe among older individuals. Lower platelet counts may pre-empt mortality.

Keywords: dengue fever; emergency department; India; mortality; thrombocytopenia
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(237) Possible Disaster from Industrial Emissions and How to Control Them

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Objectives: To establish risk assessment for organic solvents in a printing industry, and to develop control measures for a possible environmental pollution disaster.

Methods: The study was conducted in a printing industry with about 400 employees in a highly populated community. Monitoring of ambient air for various organic solvents was conducted. The industry as the target area uses solvents such as ethyl acetate (EAC), methyl ethyl ketone (MEK), ethanol, and isopropyl alcohol (IPA) for printing and laminating plastics.

Results: Workers were exposed to high concentrations of solvents that may cause damage, such as cancer or repro-