

scores of different groups were similar, implying that CBRN medical training is an equator of attitude toward a chemical event. This equality of scores might reflect a similar level of preparedness toward managing a chemical warfare casualty indicates the importance of such education and training.

Conclusions: Training such as the described CBRN course has a significant positive impact on attitude of physicians toward treating a chemical victim, mainly on knowledge and self sense of capabilities. Medical experience is a contributor for positive attitude, however, after the CBRN course, attitude scores were similar for all groups.

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Keywords: attitude; casualty management; chemical warfare; experience; physician

Prehosp Disaster Med

Terror and Conflicts

Preparing for the Predictable Surprise of a Terrorist Bombing

R. Hunt; I. Ashkenazi; S. Deitchman; B. Dorn; J. Enders; H. Falk; L. Garbarino; V. Kapil; J. Madden; L. Marcus; K. Sarmiento; S. Sasser

Centers for Disease Control and Prevention, and the National Preparedness Leadership Initiative: A Joint Program of the Harvard School of Public Health and Harvard's Kennedy School of Government

Introduction: The US Institute of Medicine reports that, "Explosions are by far the most common cause of casualties associated with terrorism." However, there have been no successful terrorist attacks in the US resulting in mass injuries and deaths since 11 September 2001. While a terrorist bombing is a predictable surprise, medical preparedness for events that have not occurred for eight years pose challenges to motivation and prioritization. This work describes the Centers for Disease Control and Prevention (CDC's) planning strategies to meet those challenges, and programs to disseminate this information.

Methods: These initiatives are designed to acquire, disseminate, and utilize knowledge about clinical and health system challenges in responding to terrorist bombings. This work was accomplished by collaborating with a wide range of partners including: key health system leaders who

responded to bombings internationally, non-governmental health organizations, and federal agencies.

Results: Joint meetings of US and international medical responders from New York City, Boston, Washington DC, Chicago, San Francisco, Los Angeles, Delhi, Israel, London, Madrid, Mumbai, and Pakistan were convened to learn about the medical response to terrorist bombings. Terrorist bombing challenges common around the world were identified, including triage, casualty distribution, standards of care, and healthcare system resilience. A course on clinical care of bombing victims, guidance on surge capacity for terrorist bombings, and a bomb injury surveillance tool was developed and disseminated.

Conclusions: The CDC, in cooperation with a wide range of partners, developed and disseminated new knowledge about challenges, and proposed solutions for the medical response to terrorist bombings. This work has applicability in the US and internationally, and to all mass-casualty events. The next steps include developing a health systems terrorist bombing preparedness course, implementing surge capacity guidance, utilizing the bomb injury surveillance tool, and building on successful international collaborations.

Keywords: collaboration; international; preparedness; surveillance; terrorism

Prehosp Disaster Med

Program for Psychological First Aid for the Treatment of Acute Stress Reactions in a General Hospital during Rocket Attacks

Eva Farberoff, MA; Jolanda Kaddar, PsyD; Bella Kreinin, MD; Gila Hyams, RN, MA
Rambam Health Care Campus, Haifa, Israel

Introduction: During the Second Lebanon War, Haifa and Rambam Hospital were under constant rocket attacks. The hospital had to cope with the wounded soldiers and civilians, suffering from physical and/or mental injuries. Simultaneously, the staff was in personal danger and exposed to Secondary Traumatic Stress (STS). The Trauma Unit of Rambam Hospital and the Mental Health Service of the Ministry of Defense requested increased psychological assistance for the wounded. The emergency program was designed to lower stress and to prevent post-traumatic stress symptoms by early psychological intervention.

Methods: The program was developed and directed by the psychological service, coordinated and collaborated with the trauma unit, psychiatric unit, administrative and medical staff of the hospital. Twenty psychologists from the psychiatric department received special training to give bedside psychological first aid (PFA) to physically wounded patients suffering from acute stress reactions (ASR). Training was immediate, ongoing, on location, included weekly lectures, daily group supervision and written manuals. Individual and group sessions were designed for helping staff suffering from STS.

Results: From the 284 hospitalized soldiers and civilians, 112 received PFA in 14 different wards. Psychological evaluation upon release showed lowered stress levels. Few cases were referred to further treatment after release. Staff reported that they felt supported, contained, and helped by the psychological interventions.

Conclusions: The program was based on and added to the existing psychiatric and psychological emergency service for victims of multiple fatality incidents, which was necessary and useful to lowering stress levels in victims suffering from ASR. Post-analysis recommends adding an emergency telephone line for the staff and to offer PFA to all services in the hospital. A follow-up, evaluating the mental state of the patients to see if this program was successful is recommended.

Keywords: acute stress reaction; civilian; hospital; psychological first aid; war

Prehosp Disaster Med

New Concepts in Terrorism and Non-Conventional Global Threats: Ethics and Terror Medicine

Dr. A. Rossodivita,¹ Prof. A. Trufanov²

1. San Raffaele Hospital and Scientific Foundation, IRCCS, University of Medicine "Life and Health", Milan, Italy
2. Irkutsk State Technical University, Irkutsk, Russia

Introduction: After the 11 September 2001 attacks, it became clear that all countries could experience a mass-casualty incident (MCI) caused by the use of non-conventional weapons. Repeated terrorist attacks worldwide, and the global threat of a possible non-conventional chemical, biological, radiological, or nuclear explosive attack (CBRNE) now are considered worldwide problems. The size of attack, the setting, the sophisticated level of planning and organization, and the method employed were completely unprecedented. The risk of a possible CBRNE attack such as the risk of an attack using weapons of mass destruction (WMDs) is increasing. Public institutions such as government facilities, hospitals, universities, schools, or public gathering places may be targeted by terrorists using WMDs. All government and public institutions must be prepared to prevent or respond to such attacks. The health system plays a crucial role when reacting to terrorism. Appropriate, alternative actions for the response to these threats require planning with consideration of the level of risk and the local reality.

Methods: The authors analyzed and compared different forms of terrorism and non-conventional threats, with a specific analysis of the new form of international terrorism, in particular in the last decade. The study and application of laws and regulations based on protecting the population and with the respect to civil liberties, suggesting new concepts in terrorism and non-conventional threats, and terror medicine will be discussed.

Results: The knowledge of new terrorism concepts could help the international community improve responses and planning, teaching and drills, and improve preparedness in terror medicine. In addition, inter- and multi-level and interconnected cooperation at the national and international levels are emphasized.

Keywords: global; non-conventional weapon; terrorism; threat

Prehosp Disaster Med

Fire Victims: A Useful Model of Multiple Injuries in Training for War or Terrorist Casualties

Colonel Francis Levy, MD, PhD

Chief Medical Officer, Service Départemental d'Incendie et de Secours 7, Colmar, France

A civilian fire victim is potentially hurt by three types of injuries: (1) disorders from explosion, falls, defenestration, etc.; (2) heat trauma from burns; and/or (3) toxic aggression from smoke inhalation and soot contamination. In large fires, there also is a probability of a greater number of victims requiring an incident command system, triage, or the evacuation of a population (especially in forest fires). The treatment of fire victims needs prehospital triage, decontamination, antidotes particularly for cyanide, and a heavy need for of transportation including oxygen stocks. Hospitals require intensive care units, burn center beds, and in the case of multiple victims, international cooperation. These fire situations can be used as a model for chemical, biological, radiological, and nuclear terrorist attacks because they also combine all the different threats and the same problems.

This presentation will demonstrate, with different examples, how the management of civil fire victims can be used as a lesson for war or terrorist attacks involving explosion, air toxins, and multiple traumas.

Keywords: burn patient; chemical, biological, radiological, and nuclear; fire victims; management

Prehosp Disaster Med

Comparison of Injuries due to Terrorism and War

Dena H. Jaffe,¹ Kobi Peleg^{1,2}

1. National Center for Trauma and Emergency Medicine Research, The Gertner Institute for Epidemiology and Health Policy Research, Tel-Hashomer, Israel
2. Department of Disaster Medicine, School of Public Health, Tel-Aviv University, Tel-Aviv, Israel

Introduction: Injuries due to terrorism and war are not necessarily comparable, especially among civilians and military personnel. The authors sought evidence-based data for use in identifying gaps and establishing protocol for the management of injuries according to conflict type and population group.

Methods: A retrospective study was performed using hospitalization data from the Israel National Trauma Registry (November 2000–December 2006).

Results: Terrorism and war accounted for trauma hospitalizations among 1,784 civilians and 802 military personnel. Most civilians (93%) were injured in acts of terrorism and transferred to trauma centers by land. Critical injuries and injuries to multiple body regions were more likely in terrorism than war. In contrast, military personnel were injured in both acts of terrorism and war and brought to trauma centers by land and air. Among military personnel war injuries tended to be less severe than those due to terrorism. Rates of first admission to orthopedic surgery were greater for all casualties except for civilians injured by acts of terrorism who were equally likely to be admitted to the intensive care unit. The rate of ≥ 1 surgical procedure within 12 hours of admission was higher among victims of terrorism than war casualties. In-hospital mortality was higher