

chologists, teachers, and other caregivers in facilitating the CISM. Since then, most of the disaster management programs have included psychosocial interventions for the victims. The interventions aim at facilitating a victim's ability to gain a sense of empowerment so s/he can be transformed from being a victim to being a survivor. Without psychosocial intervention, the victims would remain in their passive, dependent state, not able to utilize resources effectively to reconstruct their lives and their communities. Thus, psychosocial interventions should be an integral component of disaster management.

Keywords: critical incident stress debriefing (CISD); depression; developing countries; disasters; earthquakes; floods; impact; lehar; management; mental health; Philippines; post-traumatic stress disorder (PTSD); prevalence; psychiatric syndromes; symptoms; victims; volcanic eruptions

PN3-4

Prevalence and Predictors of Post-Earthquake PTSD: Findings from a Randomly Selected Community Sample in North China

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Objective: To investigate the prevalence and predictors of post-traumatic stress disorder (PTSD) in a Chinese rural area affected by an earthquake.

Method: One hundred eighty-one subjects, sampled randomly from two villages at different distances from the epicenter of the earthquake, were assessed for the presence of the acute stress disorder (ASD) and PTSD using the DSM-IV criteria. The WHOQOL-BREF and three subscales of Symptoms Checklist-90 also were administered.

Result: The incidences of ASD and PTSD were 6.1% and 18.8%, respectively, with a current PTSD prevalence of 7.2% at three months after the earthquake. The subjects with the PTSD diagnosis reported poorer quality of life and more psychological symptoms. Logistic regression analysis indicated that the PTSD diagnosis is predicted by gender, satisfaction with material support, and dissociative symptoms.

Conclusion: The prevalence of post-disaster PTSD in China is similar to the prevalence reported elsewhere, which is relevant to a group of factors including pre-existing and post-earthquake variables in addition to the degree of initial exposure.

Keywords: acute stress reactions; dissociative symptoms; earthquake; gender; post-traumatic stress syndrome (PTSD); predictors; prevalence; quality of life; support; symptoms

PN3-5

Mental Health Effects following Man-made Toxic Disasters: The Sarin Attack and the Arsenic Poisoning Case

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Man-made disasters as well as natural disasters, command a great deal of media attention to the psychological effects of the disaster on survivors. The findings regarding traumatic stress responses in the wake of two man-made toxic disasters: 1) the sarin attack in the Tokyo subway system in March 1995; and 2) the arsenic poisoning case in a local community of West Japan in July 1998 will be discussed. Due to the sarin attack, 12 people died, 5,500 people visited medical facilities and 1,046 people were admitted to 98 hospitals. They included subway passengers, subway workers, firefighters, and police officers. According to reports, approximately 20 to 25% of the at least moderately poisoned victims suffered from post-traumatic stress disorder (PTSD) or partial PTSD symptoms after the event. In the arsenic poisoning case, of the 67 poisoned persons, four died and 44 were hospitalized. Thirty-six percent of the survivors were diagnosed as full or partial PTSD after the event.

The two cases differed in several points. The sarin victims, in a large-scale traffic disaster in an urban area, were accidental sojourners whose psychological connection with one another was diminished when they set out on their separate ways after acute treatment was terminated. Therefore, it was not feasible to set up a long-term, community-based care program. On the other hand, the arsenic poisoning victims were inhabitants in a small local community, and an intensive relief program is being carried on by community mental health professionals.

We are learning from these opportunities that it is vital to provide victims and those psychologically close to them with accurate health information and a sound physical checkup system as well as supportive counseling, if we professionals are to help relieve the traumatic stress caused by toxic contamination.

A part of the results in this presentation is attributed to the Follow-up Study Project for Tokyo Subway Sarin Poisoning (Chief Scientist: Prof. Kazuhiko Maekawa, MD, University of Tokyo) and the Research Project for Traumatic Stress Responses (Chief Scientist: Dr. Yoshiharu Kim, MD, National Institute of Mental Health, Japan)

Keywords: arsenic; community; counseling; disasters; incidence; long-term treatment; mental health; poisoning; post-traumatic stress syndrome; prevalence; sarin; toxic contamination

PN3-6

Mental Health Program for the Victims of the Great Hanshin Earthquake in Japan: The Strategies and the Activities

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In any disaster, loss and trauma will affect many people. However, most survivors do not seek any psychological or psychiatric assistance. Some strategies to offer mental health assistance to survivors are needed. They include: 1) to use an active outreach approach; 2) to avoid the mental health labels; 3) to link with other services; and 4) to provide continuous activities. These strategies are

critical whether or not mental health services are popular in normal times.

We have provided mental health services during the reconstruction phase of the 1995 Great Hanshin-Awaji Earthquake in Japan. Our target populations have been the survivors living in temporary housing, who have experienced serious damage, and have been left behind by the reconstruction process. In the presentation, we report on the activities and the tasks for the future.

Keywords: assistance, psychiatric; disaster; labels, psychiatric; loss; mental health; reconstruction; strategies; trauma

Air Ambulance

Chair: *Abu Hassan Asaari Abdul, Akitsugu Kobama*

Tuesday, 11 May, 10:30–12:00 hours

General Session–IX

G-42

First Steps of Air Rescue: The History of Air Rescue

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In our presentation, we will discuss the first medical-evacuation actions. Although the air rescue has not too long of a history, it has tradition from the USA to Australia.

We will present the activities of General Stratemeyer in Burma, the role of the Air Rescue Service in the Korean and Vietnam War, the origin of the Australian Royal Flying Doctor Service, and of course, in some words the Hungarian Emergency Service.

Keywords: air-medical; air rescue; history; Hungary; rescue; war

G-43

Analysis of Emergency Aeromedical Transport in Taipei—VGH

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Introduction: This study took place in the Veterans General Hospital in Taipei, Taiwan (VGH-Taipei), a 2,800-bed, university-affiliated, tertiary-care center. Daily Emergency Services of the hospital serve 250 patients. There are two helicopter pads, and Emergency Aeromedical Services are used in the management of critically ill patients. Since 1990, Taipei-VGH has served patients nationwide with Emergency Aeromedical transport. Despite the high costs associated with the provision of this service, the medical effectiveness of the service has not been studied extensively. Emergency Air Services may increase the survival rate in selected groups, such as for those with severe traumatic injuries, obstetrical, and pediatric patients. This study evaluated which groups of patients benefit the most from helicopter evacuation.

Methods: The helicopter program is based at the Taipei-Veterans General Hospital in the northern Taipei area. Since 1990, there have been approximately 220 case reports of helicopter evacuation from rural and town areas. Each case report was analyzed by age, gender, diagnosis, saved time, and estimated benefit.

Results: Of the 220 patients in the analysis, 80% were men. The median age was 50 years. In 98% of the cases, the request for helicopter assistance came from the police, and in 2% the call for assistance came from lay people. Their practitioner treated most patients before the helicopter had arrived. The most common diagnosis for the aeromedical patients was traffic injury. In older patients, cerebrovascular accidents and coronary artery disease dominated, but diagnoses varied for obstetric and pediatric patients.

Conclusion: The Emergency Aeromedical Transport is beneficial for traumatically injured patients, but the use of helicopters should be targeted to obstetric and pediatric patients.

Keywords: aeromedical transport; costs; effectiveness; evacuation; helicopters; obstetrics; pediatric; transport; trauma

G-44

Norwegian Air Ambulance: A Concept for Integrated Helicopter Emergency Medical Systems (HEMS)

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Norway is a scarcely populated country. Health services are Government funded, and the aim is equal access to advanced medical aid for everyone.

The air ambulance services in their present form were introduced in 1978, and the Government took responsibility for a nation-wide air ambulance system in 1988. The Norwegian Air Ambulance (NLA) has been a major actor in the provision of these services since the beginning. The NLA's concept is to bring the hospital to the patient, in order to introduce advanced medical treatment at the scene. The helicopter operation is not a goal in itself, but a mere tool to bring competent medical aid to a sick or injured patient as soon as possible. If indicated, it then may be used to transport the patient to the appropriate level hospital. The reason for this philosophy is the vast amount of data supporting that the time period from injury to advanced (often anaesthesiological) treatment is a crucial determinant of prognosis. Examples are early intubation and controlled ventilation for head injuries, thrombolytic therapy for cardiac coronary artery thrombosis, and defibrillation for victims of cardiac arrest. The decision to "scoop and run" or to "stay and play" is made by the crew. Key factors in the decision process are the nature of the injury, the distance to the hospital, weather conditions, and others.

The NLA's operations are integrated:

- *Internally* — within the crew: consisting of one pilot, one anaesthetist, and one HEMS crew member (assisting the pilot during flight, the doctor on scene,