

ber of participants that have worked with emergency government organizations is 55% (39–61%). A total of 59% (51–68%) of the material was new to them, while 74% (69–91%) of the material was applicable to their work setting.

Conclusion: Even for experienced hospital personnel, a majority of the HOPE course material was new and applicable in their current work setting. There is great country-dependant variability in regards to prior emergency response work and hospital preparedness participation.

Keywords: assessment; education; disaster management; hospital; preparedness; Southeast Asia

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Free Papers—Theme 16: Public Health 2

Food Security and Anthropometry following One Year of Food Assistance in Palestinian Territories

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Objective: After the 2002 study revealed a high prevalence of global acute and chronic malnutrition (GAM and GCM, both defined as <-2 z-score) in the Gaza Strip, a massive food assistance effort took place. One year later, the current study was conducted to assess whether that effort has led to any improvements, and gauge how well assistance was targeted. The study concluded that the major problems with food access in the West Bank and Gaza Strip were financial, rather than physical, and could be quantified and linked to anthropometric measurements. **Methods:** A random sample of 2,486 households was selected using a two-stage design stratified by urban, non-urban, and refugee camp households and weighted by population between the West Bank and Gaza Strip. Weight, height, and age of the members of the households were measured. There were a total of 3,089 children, ages 6–59 months. Household respondents also were surveyed regarding the level of food assistance and quantifiable indicators of food security and household coping mechanisms, which could be cross-tabulated with the prevalence of GAM (weight for height ratio) and GCM (height for age ratio).

Results: The short-term indicator of GAM was 3.1% in the West Bank and 3.9% in the Gaza Strip, both of which had improved since 2002. The long-term indicator of GCM was 9.2% in the West Bank, statistically up from 2002, and 12.7% in Gaza Strip, statistically down from 2002. Level of employment was the major indicator of food insecurity, while decreasing household food consumption and buying food on credit were the major coping strategies.

Physical barriers, such as curfews and checkpoints, were not factors for food access. Households with employment <20 hours per week were statistically more likely to have

children with GAM and GCM (chi square = 5.25, $p \leq 0.025$, and chi square = 15.3, $p \leq 0.001$, respectively). Households decreasing food consumption more than once per week were more likely to have children with GCM (chi square = 6.84, $p \leq 0.05$). Food assistance was not well targeted: 52.8% of West Bank households with employment of <20 hours per week were not receiving food assistance, compared to 26.6% of similar Gaza Strip households; 69.7% of West Bank and 19.8% of Gaza Strip households which decreased food consumption more than once per week were without food assistance; a nearly similar percentage of households who purchased food on credit more than once per week did not receive food assistance. There was a statistically non-significant trend for GAM and GCM to occur in households receiving food assistance.

Conclusions: Financial access to food and subsequent coping strategies during a chronic conflict affects the nutritional status of preschool children. Linking nutritional and food security indicators can guide food assistance programming.

Keywords: anthropometry; assistance; food; food security; Gaza Strip; malnutrition; West Bank

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Disaster Intervention: Long-Term Follow-Up in Armenia

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A devastating earthquake struck Armenia on 07 December 1988, killing 50,000 people and leaving 500,000 homeless. Disaster intervention and humanitarian aid from around the world during the first two years followed a traditional course of providing acute medical care, shelter, and reconstruction. The shifting world political scene, with the crumbling of the Soviet Union (of which Armenia was a member at the time), created a familiar situation for the country. Once again, it was at the crossroads of international politics for various reasons. First, it was at war with neighboring Azerbaijan over Nagorno-Karabagh, an historic Armenian enclave; second, it experienced a material blockage of humanitarian aid by neighboring Turkey; and third, Armenia was caught in the middle of controversy about transporting oil from the Caspian Sea to the Mediterranean Sea. These successive traumas led to a program of continuing long-term disaster intervention by diasporan Armenians from around the world after the initial wave of help for the earthquake was over.

This presentation describes how the initial mental health team from the United States provided crisis intervention, training, and research that later developed into a model for delivering mental health services to the entire country. The time-limited model of crisis intervention developed in the earthquake zone in Armenia is described, and the authors explain how it was adapted to treat victims following the World Trade Center attack in New York City on 11 September 2001. The results of two current studies in Armenia will be discussed. One study includes follow-up data on long-term benefits of the brief crisis interven-

tion in Armenia, and a second one presents new data on relocation of victims who experienced the earthquake and the effects of relocation on their children. To sustain the success of the mental health program in Armenia, it is important that volunteers have certain important characteristics, which will be discussed as well.

Keywords: Armenia; crisis intervention; earthquake; follow-up; mental health; psychosocial

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Free Papers—Theme 17: Tsunami-2

Survey for the Medical Needs and Life Conditions following the 2004 Sri Lanka Tsunami

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Objective: To identify the medical needs, state of public health, and life conditions during the tenure of the Japan Disaster Relief (JDR) medical team during the sub-acute phase following the 2004 Sri Lanka tsunami. Additional objectives included: (1) contribute to the direction of medical service; (2) search for serious cases; (3) clarify the public health situation in Sainthamaruthu.

Methods: The study was performed using comprehensive interviews of disaster casualties (35 households, 199 persons) who were living as refugees and the examination of the quality of water and sanitation facilities that were available.

Results: During the early phase of the disaster, traumatic illnesses and respiratory diseases were the main medical problems found in patients without serious injuries. These were followed in frequency by skin diseases and mental or psychological problems. There were 23 patients presenting with traumatic injuries, 13 patients with respiratory diseases, 11 cases of skin disease, and seven cases with mental issues. The state of public health, in terms of water and sanitation, was maintained fairly well. As for the life condition, the supply of drinking water and the availability of toilet facilities were not maintained as well as was the public health state. However, with time, mental stress increased gradually.

Conclusions: Because water was distributed by pipes, water-borne diseases were not an issue. During the sub-acute phase following a tsunami, it is imperative that medical teams concentrate on traumatic injuries, respiratory diseases, and skin diseases concurrently; coping with patients suffering mentally should follow during this phase, and the maintenance of public health should always be a task.

Keywords: Japan Disaster Relief (JDR); life conditions; mental health needs; respiratory infections; skin disease; Sri Lanka; trauma; water-borne diseases

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Patterns of Injury at the ICRC/Norwegian Red Cross Hospital in Banda Aceh

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Objectives: To evaluate the injury pattern and the need for a field hospital in Banda Aceh after the tsunami on 26 December 2004.

Material and Methods: All medical records for patients admitted to the hospital as well as for all patients treated in the outpatient department were abstracted. Age, gender, reason for admission, diagnosis, and treatment were recorded from the opening of the field hospital until 10 March 2005.

Results: As of 02 February 2005, a total number of 40 patients were admitted to the field hospital, some with severe injuries. In the outpatient ward, approximately 100 patients have been seen, many of them showing signs of post-traumatic stress disorder. Details on types of injuries, types of diseases, and psychiatric problems will be presented at the end of the study.

Discussion: The results will be discussed in the perspective of evaluating the real need for a field hospital in a similar disaster situation affecting a middle-income country. These results will be compared with a similar study performed by the author in Bam, Iran in December 2004.

Keywords: Bam; comparison; field hospital; injuries; patterns; relief; tsunami

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Tsunami Disaster and Child Victims in Sri Lanka—A Case Study

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The recent tsunami has created a devastating situation in 15 districts of the coastal areas of Sri Lanka. Nearly 50,000 lives have been lost, of which 33% are estimated to have been children. Presently, thousands of children are displaced, and many of them have lost either one or both parents, siblings, and loved ones. The displaced people have lost their homes, belongings, and livelihood. Infrastructure facilities, including schools, have been destroyed. A large number of affected people live in refugee camps under very dilapidated conditions. As a result, the children, being one of the most vulnerable groups in the camps, also are facing threats of sexual and other forms of abuse, and above all, immense psychological trauma. Many children were missing after survival from the tsunami; there were few child trafficking cases reported to the police. Child abuse and sexual harassment were prevalent in the camps. The trauma to the elderly, children, and orphans was pathetic. The situation was worse in Northern and Eastern Sri Lanka, where most of the internally displaced children (IDC) were quarantined. The plight of the child survivors in the camps and temporary housing arrangements will be analyzed, and the actions initiated by the various international and local organizations to recover them from this situation will be presented.