studies/interventions attempt to list the various mental health problems and psychosocial consequences. There are very few studies which go beyond listing of consequences, to focus on implications of disaster mental health for long term disaster recovery. There is dearth of research based literature on the concept of community trauma, factors contributing to negative emotions and emotional distress/ problems, community response (social and cultural) to disaster mental health issues, long term emotional implications of psychosocial consequences of disasters and the life course of individuals with mental health issues in the long run following disasters. The paper attempts to address the above mentioned issues in the context of 2004 tsunami. The paper is based on a study carried out in India two years after the disaster. A Case study approach was used and 177 case studies were collected from 104 villages in 14 affected districts of three states in India. The paper contributes to understanding the long term implications of disaster mental health for disaster recovery and reiterates the significance of integrating disaster mental health services within humanitarian services.

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(A12) From a Helpless Victim to a Coping Survivor: Innovative Mental Health Intervention Methods during Emergencies and Disasters

M.U. Farchi
School Of Social Work, Stress & Trauma Studies Program, Upper Galilee, Israel

Crisis, disasters, terror attacks or any other traumatic event may cause among the survivors acute stress reaction (ASR). The main goal of the first responder in terms of mental health in the acute phase is to provide the victim the basic support that will stabilized the needed coping resources and re-establish the sense of control and safety (Kutz & Bleich, 2005). This process encourages the shift of the victim's perspective from a helpless victim to a coping survivor. The emergency mental health interventions are differentiated by the location: Location 1: The event's location: Pacing & Leading using varied communications channels. Re-establishing sequences of contingency. Regaining sense of control. Using the cognitive communication channel. Yes-set sequences. Location 2: Emergency rooms or Traumatic Stress First Aid Centers (TSFAC) Stress symptoms reduction using suggestive techniques Memory Structure Intervention (MSI). Psychological Inoculation (PI). Group interventions. Basic deferential diagnosis: ASR-PTSD Patent release decision making. The higher the number of casualties, the more likely is the need for early interventions by non-professionals. This may be particularly true for a mega-terror attack, when the numbers of survivors with ASR can flood the hospital gates. The general principles for intervention by non-professionals, adopted by the Israel Ministry of Health (2002), are: a. Establish personal contact with the survivors and provide words of comfort or supportive touch. b. Encourage survivors to verbalize their experiences. c. Provide orienting information about what happened and what is about to happen in the hospital. d. Ensure physical needs such as hydration, food, and rest when appropriate. e. Enable contact with any significant other as soon as possible through phone or personal contact. During the presentation the above subjects will be elaborated and demonstrated by case studies and short videos.

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(A13) Effective Proactive Outreach among Disaster Relief Workers (DRW) in an Emergency Mortuary (EM)

E.L. Dhondt,[1] A. Heulot[2]
1. Emergency and Disaster Medicine, Brussels, Belgium
2. Center for Crisis Psychology, Brussels, Belgium

Background: Following the Buizingen train-crash disaster on February 15, 2010, nineteen dead bodies were evacuated to the morgue of the Military Hospital. According to the hospital's emergency incident management system, the reception plan for the deceased was activated and an EM organized. Aim: To determine the psychological impact of exposure to current death and to evaluate the effect of proactive outreach in DRW deployed in an EM.
Methods and Results: For five consecutive days 62 hospital staff personnel were involved in the daily activities of an EM: disaster victim identification, autopsies, care for the dead, logistic support and reception and mental relief of the families. Besides a critical incident debriefing on day 5, a postal questionnaire survey of these 62 DRW was conducted, including the Davidson Trauma Scale (DTS) – detecting acute post-traumatic stress reactions/symptoms (ASR/S) – and the Symptom Checklist SCL 90 self-report inventory – measuring primary symptoms and global distress – administered 2, 4 and 7 months following the train-crash. Out of these, 35 (56%) initially responded (informed consent), followed by a return rate of 80% (28/35) and 68% (19/28) respectively. Six out of the 35 participants were identified suffering from acute psychological distress according to DTS and SCL 90 and subsequently followed up in the hospital's dedicated Military Centre for Crisis Psychology. In five of them, normalization of symptoms had occurred by the second inquiry and persisted. Ten months post-event, only 1 patient still needs psychological counseling, whereas 34 demonstrated psychological resilience.
Conclusion: Prevalence of chronification is low (1/35) compared to literature (5 to 10%). Timely detection of acute distress and proactive outreach may effectively counterbalance chronification in tertiary victims following a critical incident. Education and training should help hospital staff deal with ASR/S and improve coping. Hospitals should support professionals in the most disturbing situations.

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(A14) Psychosocial Support Services in Disasters - Indian Experiences

K. Sekar
Psychiatric Social Work, Bangalore, India

India with 1.08 billion populations is vulnerable to earthquake (56%), floods (8%), cyclones (12%) and droughts (28%) every year. It is further compounded with refugees, riots, epidemic and endemic situations. Disaster psychosocial support and mental health services has consistently grown and standardized over

the past three decades in India. The initial experiments' started in 1981 with a circus tragedy and documentation of prolonged grief reaction. In the Bhopal gas tragedy (1984) mental health services were integrated through primary care doctors. The Marathwada earthquake (1991) involved primary health care personnel in provision of mental health care to the survivors. The Orissa super cyclone (1999) saw the emergence of psychosocial support to the community using local resources like community level workers who were survivors by themselves. The feasibility study involving 40 such workers was expanded to a pilot model with 400 workers in the Gujarat earthquake (2001) and later to the level of a District model in the Gujarat riots (2002). These developments paved way for the State model when Tsunami struck the eastern coast of India affecting three States and two Union Territories in India. The experiences and experiments led to the development of standardized capacity building tools and intervention kits with level and limits of care being addressed. The Indian experiences has seen a striding change from psychiatry paradigm to public health model, to the development of a standardized psychosocial support models involving community at large. The lesson learnt has been helpful in developing the National Guidelines on Psychosocial Support and Mental Health Services by the National Disaster Management Authority of India. These service models could be adapted to the developing South East Asian countries where there is a paucity of trained professionals to attend the needs of the survivors.

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(A15) Trauma Signature Analysis: Evidence-Based Guidance for Disaster Mental Health Response

J.M. Shultz,[1] Y. Neria,[2] Z. Espinel,[3] F. Kelly[4]

1. Center for Disaster & Extreme Event Preparedness, Miami, United States of America
2. New York State Psychiatric Institute, New York City, United States of America
3. Center for Disaster and Extreme Event Preparedness, Miami, United States of America
4. Dublin, Ireland

Introduction: The first decade of the 2000s has advanced the field of mental health and psychosocial support (MHPSS) in disasters by providing expert consensus guidance. Nevertheless, MHPSS response to major disasters is frequently uncoordinated and rarely based on scientific evidence. Moreover, MHPSS response is not customized to the unique constellation of stressors and psychological risk factors that distinguish each disaster event. To address this lack of science and specificity, we have developed trauma signature (TSIG) analysis.
Methods: TSIG analysis consists of the following steps. Risk factors for disaster-related psychological distress and psychopathology (e.g., PTSD, depression) are continuously documented, updated, and refined. When disaster strikes, situation reports (sitreps) are issued in the early aftermath. We examine initial sitreps to determine the presence and intensity of evidence-based risk factors, subsumed under the headings of exposure to hazards, loss, and change. We estimate the size of the affected population. We rapidly create an initial TSIG and translate findings into actionable guidance regarding probable MHPSS needs for services and personnel.
Results: We have constructed TSIGs for prominent 2010 disasters: Haiti earthquake, Deepwater Horizon oil spill, and Pakistan monsoonal flooding. Psychological risk factor profiles contrast sharply across these three salient events. Regarding exposure to hazards, numbers of persons experiencing physical injury and perceiving threat to life are highly divergent. Losses differ dramatically when quantified in terms of deaths, numbers bereaved, homes and livelihoods lost, and economic toll. The degree of lifestyle and societal change, including displacement, lack of survival needs, lack of security, and interpersonal violence, also differentiates the psychological impact of these disparate events.
Conclusion: TSIG analysis can be used to provide rapid post-impact/pre-deployment MHPSS response guidance based on risk factor assessment. Using TSIG analysis, MHPSS response can be tailored and timed to the defining features of the disaster event.

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(A16) Using Geographical Information Systems in Road Traffic Injury Research: A Case Study of New Mumbai, India

A. Srikanth,[1] B. Guru[2]

1. Jamsetji Tata Center for Disaster Management, Mumbai, India
2. Tata Institute of Social Sciences, Mumbai, India

Introduction: A multidisciplinary approach with Geographical information systems, Public health and Social science inputs was adopted to survey the fatal and non-fatal traffic crash events in the New Mumbai municipality region in Western India to identify the risky zones on the arterial highways.
Methods: A Standardized questionnaire was used to collect event data about the time, date, day of the week, location, type of injury, and vehicle type involved in the accidents, from the police station records. The data for the time period of January 2009 to July 2010 was merged into ESRI's ArcGIS software as attribute data. All the crash sites were georeferenced into the base map (with the major road networks of the region) by using a GPS receiver.
Results: Analysis was done for Hot spot identification along the major highways, number of accidents, number of fatalities and injured, case-fatality ratio and number of accidents with only financial loss. Further, the role of environmental, geographical, sociological and constructional factors was highlighted on the locations of the RTC. These roadway factors, weather, population density, road conditions, profile of the injured and healthcare access was studied. Majority of RTCs occurred during normal weather and road conditions, during daylight and on dry roads. All the analyses and interpretations were done within the ArcGIS software environment and classifying RTCs according to the attributes on the Geodatabase gave significant results.
Conclusion: Spatial analysis using GIS for Road Traffic Accidents to identify hot spots to identify high risk zones in the region enables policy makers to design injury prevention strategies for RTCs. In India, further GIS-based research is needed for planning access to emergency health care, to determine environmental-related causes, developing Injury