

Abstracts of Oral Presentations-WADEM Congress on Disaster and Emergency Medicine 2019

BEST PAPERS

Addressing Adolescent Mental Health after Disasters: The Critical Role of Chronic Stressors

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Introduction: Prolonged conditions of chronic stress have the potential to cause mental health difficulties and disrupt developmental processes for children and adolescents. Natural disasters disproportionately affect low-resource areas, yet little is known about the interaction between trauma exposure, chronic stressors, and mental health.

Aim: To determine the rates of post-traumatic stress disorder (PTSD), depression and anxiety among adolescents affected by earthquakes in China and Nepal, and examine the specific roles of trauma exposure and chronic stressors across the three mental health outcomes.

Methods: A school-based, cross-sectional study of 4,215 adolescents (53% female, ages 15-19 years) was conducted in disaster-affected areas of southern China and Nepal. Participants completed a series of translated and culturally adapted standardized assessments. Mixed effects logistic regression analyses were conducted for each mental health outcome.

Results: The overall rate of PTSD was 22.7% and was higher among Nepalese participants (China: 19.4% vs. Nepal: 26.8%, $p < 0.001$), but did not differ between genders (China: $p = 0.087$ and Nepal: $p = 0.758$). In both countries, the level of trauma exposure was a significant risk factor for PTSD, depression, and anxiety (China: OR's 1.09-1.18 and Nepal: OR's 1.08-1.13). Chronic stressors significantly improved the model and further contributed to mental health outcomes (China: OR's 1.23-1.26 and Nepal: OR's 1.10-1.23). Multilevel risk and protective factors across all mental health outcomes will be presented.

Discussion: While there are limited opportunities to protect adolescents from disaster exposure, there is significant potential to address the effects of ongoing economic insecurity, domestic violence, and school cessation that are likely to worsen mental health outcomes. Programs that identify chronic stressors for adolescents in disaster-affected settings, and work to address poverty and violence, will have cascading effects for mental health, development, and security.

Prehosp. Disaster Med. 2019;34(Suppl. 1):s4

doi:10.1017/S1049023X1900027X

August 24th, 2016 Central Italy Earthquake - Validation of "Modified Utstein Template for Hospital Disaster Response Reporting," A New Tool for Reporting Hospital's Reaction to Disasters

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Introduction: After Action Reports analyze events and recommend actions to facilitate preparedness and response to future similar disasters. However, there is no consensus among the templates developed to collect data during disasters and little is known about how to report hospital responses.

Aim: The hypothesis was that the use of a new assessment tool for hospital response to natural disasters facilitates the systematic collection of data and the delivery of a scientific report after the event.

Methods: A data collection tool, focused on hospital response to natural disasters, was created modifying the "Utstein-Style Template for Uniform Data Reporting of Acute Medical Response in Disasters",¹ and tested the reaction of the hospitals involved in the response to the Central Italy earthquake on August 24th, 2016.

Results: Four hospitals were included. The completion rate of the tool was of 97.10%. A total of 613 patients accessed the four emergency departments, most of them in Rieti hospital (178; 29.04%). Three hundred and thirty-six patients were classified as earthquake-related (54.81%), most of which with trauma injuries (260; 77.38%).

Discussion: The new reporting tool proved to be easy to use and allowed to retrospectively reconstruct most (97.10%) of the actions implemented by hospital responders. Details about activation, patient fluxes, times, and actions undertaken were easily reconstructed throughout in-field interviews of hospital

managers and patients' charts. Patients were uniformly distributed across the four hospitals, and the hospital capabilities were able to cope with this mass influx of casualties. The Modified Utstein Template for Hospital Disaster Response Reporting is a valid tool for hospital disaster management reporting. This template could be used for a better comprehension of hospital disaster reaction, debriefing activities, and revisions.

References

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Prehosp. Disaster Med. 2019;34(Suppl. 1):s4–s5

doi:10.1017/S1049023X19000281

Examining the National Profile of Chronic Disaster Health Risks in Australia

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Introduction: Despite a longstanding focus on examining acute health impacts in disaster research, only limited systematic information is available today to further our understanding of chronic physical health risks of disaster exposure. Heterogeneity of studies and disaster events of varying type and scale compounding this challenge highlight the merit of a consistent approach to examining nationally representative population data to understand distinctive profiles of chronic disaster health risks.

Aim: This epidemiological study examined the full spectrum and national profile of chronic physical health risks associated with natural and man-made disaster exposure in Australia.

Methods: Nationally-representative population survey data (N=8841) were analyzed through multivariate logistic regression, controlling for sociodemographic variables, exposure to natural and man-made disasters, and other traumatic events. Key outcomes included lifetime national chronic health priority conditions (asthma, cancer, stroke, rheumatism/arthritis, diabetes, heart/circulatory) and other conditions of 6 month or more duration (based on the World Health Organization's WMH-CIDI chronic conditions module).

Results: Natural disaster exposure primarily increased the lifetime risk of stroke (AOR 2.06, 95%CI 1.54–2.74). Man-made disaster exposure increased the lifetime risk of stomach ulcer (AOR 2.21, 95%CI 1.14–4.31), migraine (AOR 1.61, 95%CI 1.02–2.56), and heart/circulatory conditions (AOR 2.01, 95%CI 1.07–3.75). Multiple man-made disaster exposure heightened the risk of migraine (AOR 2.98, 95%CI 1.28–6.92) and chronic back or neck conditions (AOR 1.63, 95%CI 1.02–2.62), while multiple natural disaster exposure heightened the risk of stroke (AOR 3.28, 95%CI 1.90–5.67). No other chronic health risks were elevated. Despite the relatively greater chronic health risks linked to man-made disasters, natural

disasters were associated overall with more cases of chronic health conditions.

Discussion: The analysis of nationally-representative population data provides a consistent method to examine the unique national imprint of disaster exposure and distinct profile of disaster health risks to inform future detection, prevention measures, disaster health preparedness, and response planning.

Prehosp. Disaster Med. 2019;34(Suppl. 1):s5

doi:10.1017/S1049023X19000293

Resurgence of Vector-Borne and Vaccine-Preventable Diseases in Venezuela in Times of a Complex Humanitarian Health Crisis: A Regional Menace

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Introduction: Venezuela has plunged into a humanitarian, economic, and health crisis of extraordinary proportions. This complex situation is derived from dismantling of structures at the institutional, legal, political, social, and economic level affecting the life and wellbeing of the entire population.

Aim: This study aims to assess the impact of Venezuela's healthcare crisis on vector-borne and vaccine-preventable diseases and the spillover to neighboring countries.

Methods: Since October 2014, there is a paucity of official epidemiological information in Venezuela. An active search of published and unpublished data was performed. Venezuela and Latin America data were sourced from PAHO Malaria Surveillance and from Observatorio Venezolano de la Salud. Brazil and Colombian data were accessed via their respective Ministries of Health.

Results: Economic and political mismanagement have precipitated a general collapse of Venezuela's health system with hyperinflation rates above 45,000%, people impoverishment, and long-term shortages of essential medicines and medical supplies. In this context, the rapid resurgence of previously well-controlled diseases, such as vaccine-preventable (measles, diphtheria) and arthropod-borne (malaria, dengue) diseases has turned them into epidemics of unprecedented magnitudes.