

Barodontalgia Among Sri Lankan Air Force, Air Crew
Lakmabhimana R. Pagoda
 Command Hospital, Sri Lanka Air Force, Guwanpura/Sri Lanka

Study/Objective: The purpose of this study was to assess the current in-flight incidence of barodontalgia, and to identify the associated dental pathologies and etiologic factors.

Background: Barodontalgia, a dental pain evoked by a change in barometric pressure in an otherwise asymptomatic tooth, may be severe enough to cause in-flight vertigo, incapacitation, and premature cessation of flights and altitude-chamber simulations.

Methods: A total of 40 questionnaires were e-mailed to fighter, helicopter, and transport aircrews of the Sri Lankan Air Force. They were asked to report whether they had ever suffered from a toothache during flight. If a positive answer was reported, the subject was interviewed and his dental file was reviewed to obtain details about the incidence.

Results: There were 31 (77.5%) aircrew members who responded. Out of those, 4 (12.9%) reported at least 1 case of barodontalgia; their mean age \pm SD was 29.7 ± 7.3 yr and the occurrence by aircraft platform were 6.45% of fighter, 3.2% of helicopter, and 3.2% of transport respondents. Many of the cases originated from vital and/or inflamed pulp (40.7%), whereas the other cases were due to pulp necrosis or periapical periodontitis (18.5%) and barosinusitis (18.5%). None of the patients reported premature mission termination due to dental pain.

Conclusion: Even with modern dental care, military aircrews from all the flight platforms may occasionally experience barodontalgia. Flight surgeons and dentists should be aware of this phenomenon and use preventive measures to minimize its incidence and severity.

Prehosp Disaster Med 2017;32(Suppl. 1):s201
 doi:10.1017/S1049023X17005246

**Occupational Health Issues among Non-traditional
 Response Workers following Hurricane Sandy**

Michael J. Reilly
 Center for Disaster Medicine, New York Medical College, Valhalla/
 NY/United States of America

Study/Objective: Characterize the specific distribution and determinants of illness and injury among laypersons and volunteers assisting in the remediation of homes flooded and damaged during Superstorm Sandy.

Background: In New York City, mold damage and other flood-related contamination has been a significant concern among the public, homeowners, and public health agencies following Hurricane Sandy. Following the storm, lay persons who had no previous experience remediating homes with damage from environmental hazards began ad hoc reparations to residential buildings and were exposed to mold, asbestos, and other environmental contaminants.

Methods: A field survey of 544 homeowners and volunteers who performed mold remediation activities and participated in NYC Department of Health worker safety training programs was conducted to determine possible

exposures and health effects. A non-trained control group was also surveyed and physical and mental health outcomes were compared.

Results: Although symptom prevalence was moderate, rates of diagnosed illness in the cohort were low. The illness that affected the highest number of respondents was depression (6.5%). There were few significant differences in rates of illness between the trained and untrained groups; however, safe work practices were slightly better in the trained group.

Conclusion: The findings of this research are consistent with previous studies following Hurricanes Katrina and Rita. Effective just-in-time worker safety training programs for non-traditional responders to disasters, including “do-it-yourself” homeowners and volunteers, may reduce the rates of occupational illness and injury in this population. Health departments should create materials for occupational health and safety just-in-time training programs prior to disasters that involve widespread exposure to environmental stressors.

Prehosp Disaster Med 2017;32(Suppl. 1):s201
 doi:10.1017/S1049023X17005258

**Impact of Health Department Worker Safety Training on
 Health Outcomes after Hurricane Sandy in New York City**

Michael J. Reilly
 Center for Disaster Medicine, New York Medical College, Valhalla/
 NY/United States of America

Study/Objective: Characterize the specific distribution and determinants of illness and injury among laypersons and volunteers assisting in the remediation of homes flooded and damaged during Superstorm Sandy. Evaluate the effectiveness of worker safety training sponsored by the Department of Health to lay persons and volunteers in reducing the incidence of illness and injury due to exposure to environmental hazards.

Background: In New York City following Hurricane Sandy, lay persons and volunteers began ad hoc preparations to residential buildings and were exposed to mold, asbestos, and other contaminants. The New York City Department of Health and Mental Hygiene saw the need for worker safety training in this population. It is essential to the practice of public health to understand how a health-department-sponsored worker safety training program could serve as a prevention strategy for occupational illness following a disaster.

Methods: A field survey of 544 homeowners and volunteers who performed mold remediation activities, and participated in NYC Department of Health worker safety training programs, was conducted to determine possible exposures and health effects. A non-trained control group was also surveyed, and physical and mental health outcomes were compared to evaluate the effectiveness of training as a public health intervention.

Results: Although symptom prevalence was moderate, rates of diagnosed illness in the cohort were low. The illness that affected the highest number of respondents was depression (6.5%). There were few significant differences in rates of illness between the trained and untrained groups; however, safe work practices were slightly better in the trained group.

Conclusion: The findings of this research are consistent with previous studies following Hurricanes Katrina and Rita. In order to design a public health intervention to minimize occupational-related illness following a disaster, health departments should understand the most susceptible populations for the development of mold-related illness and implement strategies that specifically target the high-risk exposures in these populations.

Prehosp Disaster Med 2017;32(Suppl. 1):s201–s202

doi:10.1017/S1049023X1700526X

The Occupational Health and Safety of First Responders and Health Care Professionals in Magway, Myanmar

Kristin Ringstad¹, Cho Cho San², Marlar Than³, Thinzar Win³, Khin Thein Oo⁴, Kyi Khaing⁴, Thinn Aye⁵, Aye Aye Than⁶, Htay Htay Sein⁶, Khin Mar Cho⁷, Hnin Khing Aye⁷, Heidi West¹, Maja Milkowska¹, Lizeth Galarza¹, Sue Anne Bell⁸, Tomoyuki Shibata¹

1. Global Environmental Health LAB, Brooklyn/NY/United States of America
2. Psychology, Yadanabon University, Mandalay/Myanmar
3. Economics, Yadanabon University, Mandalay/Myanmar
4. Geography, Yadanabon University, Mandalay/Myanmar
5. International Relations, Yadanabon University, Mandalay/Myanmar
6. Zoology, Magway University, Magway/Myanmar
7. Geography, Magway University, Magway/Myanmar
8. School Of Nursing, University of Michigan, Anne Arbor/MI/United States of America

Study/Objective: To examine the occupational health and safety (OHS) of first responders and health care professionals in Magway, Myanmar.

Background: Myanmar has had a long-standing commitment to the OHS of its workforce. There are data supporting the OHS standards across the country. However, there are limited data on the comparison of OHS among first responders including firefighters, volunteers, and health care professionals in times of disaster versus their daily occupation.

Methods: An epidemiological study was conducted in Magway, Myanmar in July 2016, using a written survey in the local Burmese language with 119 items that assessed demographics, occupational and physical health, and type of disaster response with associated illness and injury. 234 participants, 48 (21%) health care professionals, 45 (19%) firefighters, and 141 (60%) volunteers including NGO workers and farmers, completed the survey. 160 were male, 73 were female, and the average age was 33 years. The data were organized using Excel and analyzed using SPSS.

Results: The study revealed that the highest incidence of injuries and illness during a disaster occurred during floods (63.7%) as compared to cyclones (18.9%) and landslides (16%). There was no significant difference with respect to the incidence of cuts, burns, sprains, broken bones, and diarrhea in farmers, firefighters, and health care professionals in the regular setting versus a disaster setting. However, the incidence of heat stroke in farmers (17% and 24%, respectively), vomiting in

firefighters (0% and 16%, respectively), and coughing for both farmers (17% and 21%, respectively) and firefighters (18% and 37%, respectively) was significantly higher than that of health care workers.

Conclusion: The results of this study revealed that first responders, including firefighters and farmers, have a higher risk of injury and illness than health care workers both during the course of their regular employment and during times of disaster.

Prehosp Disaster Med 2017;32(Suppl. 1):s202

doi:10.1017/S1049023X17005271

Implementation of Tabletop Exercises and Simulations to Improve Practical Skills in a Public Health Disaster Curricula

Charles Little¹, Debra Kreisberg²

1. Emergency Medicine, University of Colorado Denver, Aurora/United States of America
2. Colorado School of Public Health, Aurora/CO/United States of America

Study/Objective: To enhance understanding of disaster management by adding “hands on” practical training to a public health training curricula.

Background: Feedback from emergency managers in our region indicates a lack of practical skills in individuals seeking disaster relief employment. The Colorado School of Public Health offers a Certificate in Public Health Preparedness & Disaster Response Methods. This program is a blended online and in person curricula. As part of designing this certificate we sought to provide practical skills for individuals interested in emergency management.

Methods: To enhance the ability of students to function in disaster response, practical disaster exercises were added to the curricula. We chose typical disaster training formats, both to solidify learning as well as directly train to disaster management. These elements were integrated into a more typical curricula. This included both drills and exercises. Drills involved hands on training such as communication with radios and decontamination. Exercises were carried out in both a tabletop format as well as full scale simulation events.

Results: The new curricula was successfully implemented over two cycles of domestic and international response course training. Course evaluations showed very high engagement of students with a clear understanding of principles taught.

Conclusion: Introduction of practical training, typical of disaster responders into public health curricula, enhances student engagement and learning.

Prehosp Disaster Med 2017;32(Suppl. 1):s202

doi:10.1017/S1049023X17005283

An Analysis of Student Engagement Patterns and Course Outcomes in a Public Health and Disaster Online Course

Emily Y.y. Chan¹, Chunlan Guo¹, Zhe Huang¹, Gloria K.w. Chan¹, Hale H.l. Ho¹, Janice Y. Ho²

1. Collaborating Centre For Oxford University And Cuhk For Disaster And Medical Humanitarian Response, The Chinese University of Hong Kong, Hong Kong/Hong Kong Prc