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

EDUCATION AND TRAINING

Disaster Medicine for India & Nepal: A Model for Developing Countries

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Introduction: Both India and Nepal are prone to a wide range of natural and man-made disasters. Almost 85% of India's area is vulnerable to one or more hazards, and more than 80% of the total population of Nepal is at risk of natural hazards. In terms of the number of people affected in reported disastrous events, India is in the top 10 and Nepal is in the top 20 globally. Over the last two decades, India and Nepal have taken steps to establish their respective National Disaster Management organizations, which provide essential disaster responses. However, key gaps still remain in trained clinical capacity for managing impacts from various disasters. Our review of the region has shown that large parts of the population suffer injuries, diseases, disabilities, psychosocial, and other health-related problems from disasters.

Aim: Develop disaster medicine clinical capacity to reduce morbidities and mortalities from disasters.

Methods: Independent published data and work undertaken by the lead author in various disasters in India and Nepal since 1993 formed the basis of establishing the Faculty of Disaster Medicine for South Asia. The Faculty of Disaster Medicine - India and Nepal (FDMIN) was launched from Pune in March 2015. This initiative is supported by the National Association of Primary Care (UK), Public Health England, Faculty of Pre-hospital Care of Royal College of Surgeons - Edinburgh and CRIMEDIM (Novara) - Italy.

Discussion: FDMIN has international expert advisors and has outlined 16 modules training curriculum for health care professionals. FDMIN currently has partnerships for teaching disaster medicine program with 3 medical universities and 12 major health care providers. Six pilot training programmes have been conducted in Pune, Delhi, Chennai, and Kochin. Work is underway to submit an application to the Indian regulatory bodies for approval to establish a post-graduate diploma and Master's for Disaster Medicine.

The Effect of Moulage on Immersion, Realism, and Learning in a Traffic Accident Training Scenario for Police, Rescue Service, and Ambulance Students

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Introduction: Moulage is the art of creating faked injuries on actors for training purposes. Moulage is commonly used in disaster and emergency medicine training, as it is believed to improve learning through enhanced realism.

Aim: The aim of the current study was to test the effect of moulage on perceived realism and learning during a joint exercise featuring students from the police, rescue service, and ambulance service.

Methods: The scenario was a car accident with two victims. Students (n = 135) were divided into 12 groups. Moulage was applied to the victim actors for half the groups (n = 67), whereas the other half (n = 68) experienced the scenario without moulage. Victim cards were used in both scenarios. Immersion, realism, and learning was measured on a 100-point scale immediately post-scenario using a questionnaire.

Results: Two (moulage group) by three (student population and police, rescue service, or ambulance) ANOVAS on realism, immersion, and learning found no effects on realism or immersion (all $p > 0.10$). There was an effect of student group on learning, $F(2, 92) = 3.518$, $p = 0.034$, partial eta square = 0.071, such that the rescue service students had overall lower scores on learning (M = 53.87, SD = 28.29) compared to the police (M = 66.07, SD = 27.55) and ambulance students (M = 74.99, SD = 24.51). Cohen's ds for moulage effect was calculated to 0.144 for immersion, 0.112 for realism, and 0.003 for learning.

Discussion: The current study did not find any effects of moulage on immersion, realism, or learning. The effect sizes indicate that any effect of moulage on realism and immersion, should it

exist, is in the approximate size of 2-3 points on a 100-point scale. The lack of effect may be due to limitations in the study design, but may also indicate that the use of moulage in addition to victim cards is not necessarily beneficial for novice students' learning.

Patient Healthcare Following a Disaster: Guidelines for Family Doctors

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Introduction: Health effects of disasters are mostly consistent across hazard types. Those working in communities affected by disasters have an opportunity to provide surveillance and early management to patients affected by disaster through increased understanding of the epidemiology or health consequences in the days, weeks, months, and years after disasters. Disasters have been called a social determinant of health and population-level changes or social determinants that have been documented post-incident. Environmental and community disruption contribute to health effects. Consequent health effects are evidenced across body systems, affecting both physical and mental health.

Aim: To develop guidelines for primary care patient review following a disaster, based on the temporal pattern of disease epidemiology.

Methods: A systematic review of the literature was undertaken to examine the epidemiology of health consequences following disasters.

Results: Guidelines for Family Doctors based on the literature review were developed to assist preventative care, surveillance, early identification of emerging conditions, and ongoing management of pre-existing disease.

Discussion: Healthcare management in disasters focuses on acute healthcare in emergency departments and hospitals. However, healthcare is also being provided in primary healthcare settings during the first days to weeks of the catastrophe, with many health consequences ongoing in the weeks, months, and years after the event.

Seven First Minutes - Community Emergency Response Training

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Introduction: Following a mass casualty incident (MCI), it can take several minutes for emergency medical services (EMS) to arrive. The course was developed by Magen David Adom (MDA) based on unique experience in dealing with MCIs, and the time between alerting emergency services to such an incident until they arrive. The course is focused on teaching the general public to channel their desire to help in such a situation into useful skills which can potentially improve patient outcomes. The seminar focuses on key principles such as safety, calling for help, providing an accurate picture of the scene, and initiating basic treatment with an emphasis on hemorrhage control.

Aim: MDA examined the ability of the general public with no previous medical training to perform a basic triage and treatment in an MCI situation. Additionally, the study examined the abilities of the study groups to manage a scene until the arrival of EMS based on the principles taught in the course.

Methods: MDA has sent teams of instructors around the world to teach over 1,000 participants. Upon completing the course, the participants partake in a drill that assesses their ability to manage a scene of 20 patients. Their ability to initiate the call for help, provide an accurate picture, initiate treatment, and give an accurate report to arriving emergency responders are examined.

Results: The average times were recorded. Within 38 seconds, dispatch was alerted to the situation. Within 2:30 minutes, treatment was initiated for all patients. Within 4:37 minutes, the scene was fully under control, and within 6:37 minutes, an accurate report was transferred to EMS on the scene.

Discussion: The participants demonstrated an unexpected willingness to learn, practice, and partake in the drills, and the results were unexpected.

A Surprise Mass Casualty Incident Simulation: Does It Improve Knowledge or Is It Just a Bit of Fun?

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Introduction: We opened a national conference in Australia with a surprise mass casualty simulation scenario of a van versus multiple persons outside the conference venue. The purpose of this exercise was to increase awareness of, and preparation for, mass casualty incident (MCI) events for the conference delegates who were paramedics, emergency department nurses, and doctors.

Aim: The aim of the research is to understand whether a surprise MCI simulation is a useful way to increase knowledge and motivate preparedness.

Methods: A survey hosted on Qualtrics was circulated to delegates via email. The survey was designed by the research team and had 38 questions about demographics and respondents' experience with MCIs, as well as their perceptions of the simulation exercise. The questions were a mixture of 5-point Likert scales, multiple choice, and short answers.

Results: The majority of respondents were clinicians (n = 66, 76%) and those who worked in emergency departments or the prehospital setting (n = 75, 86%). While the majority had not responded to an MCI in the past 5 years (n = 67, 77%), more than half (n = 50, 57%) had undertaken MCI training during