Abstracts of Scientific Papers-WADEM Congress on Disaster and Emergency Medicine 2017

When Rescue Needs To Be Rescued: A Case Review of the Rollover of a Critical Care Ambulance with Patient on Board

Benjamin N. Abo[1], *Jeff Taylor*[2]
1. Emergency Medicine, University of Florida, Gainesville/FL/United States of America
2. Alachua County Fire Rescue, Gainesville/FL/United States of America

Study/Objective: This past October, when evacuating critically ill patients in preparation for an impending serious hurricane, a critical care ambulance was transporting an extremely sick and intubated patient about 75 miles to another tertiary center, when it was involved in a severe accident involving an ambulance rollover, prolonged extrication of multiple patients including the original patient on multiple infusions and medications. The case study will discuss the events during and after this rescue, as well as lessons learned regarding when a medically intensive care patient becomes part of a technical rescue.
Background: According to the National Highway Traffic Safety Administration (NHTSA), there was an annual mean of 4,500 vehicle crashes involving ambulances, over a 20 year span. Of these, over 35% of them involved injuries or fatalities. Sick and injured patients in the ambulance and a more severe mechanism, increase the likelihood of a negative outcome or outcomes.
Methods: On the eve of when a major hurricane was supposed to make landfall, reports went out that a critical care ambulance with an intubated and ventilated patient on board was involved in a major accident in the far, rural edge of Alachua County. Multiple agencies, including multiple fire and rescue units from two county fire agencies, as well as an EMS physician responded to the call with reports of prolonged extrication needs of severely entrapped patients, and possibly at least one deceased. The combined efforts and skills ultimately rescued a paramedic, an EMT-basic, two severely entrapped patients, and an intubated patient still in the upside down ambulance on multiple unknown infusions.
Results: In the end there were no fatalities, a few critical patients, and overall great outcomes with respect to the traumatic event.
Conclusion: Reviewing calls like this, help prehospital providers prepare and provide the best possible care for the best outcomes.

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Learnings from the National Medical Rescue Teams, Olympic Games

Volkan Ülker
Emergency Medicine Department, Bülent Ecevit University, Faculty of Medicine, zonguldak/Turkey

Study/Objective: We want to mention about the preparedness of Turkey, for disasters via the National Medical Rescue Teams' simulation programs.
Background: National Medical Rescue Teams (UMKE) were founded in 2004 after the Marmara Earthquake of Turkey, by the Ministry of Health of Turkey. The organization of UMKE, (this foundation) provides medical rescue efforts, sanitation and psychological support. With permission of the Ministry of Health of Turkey, UMKE took a main role in the Haiti and Pakistan Earthquakes.
Methods: At the beginning of October we took a simulation program, with all twenty six National Medical Rescue Teams in the Antalya disaster simulation center. In this Olympic game, we got ten racetracks. In these tracks, institutional structuring of UMKE, disaster triage codes, field management in multi-trauma, burned patient management, field management of crush syndrome, immobilization procedures of broken bones, camping exercise, rescue from collapsed building, transporting rules and installation of field hospital took place.
Results: At the end of this game, we received feedback on our mistakes. Especially, we realized that we gave wrong commands about the stabilization of multi-trauma patients, security of disaster fields, burned patient infusion materials, hypothermia management of victims, and team cooperation according to situations. At the end of this organization we had a chance to recognize new medical rescue teams. According to our national disaster risks like earthquake, flood, forest fires and landslides, we have to possess coordination and stand-by medical rescue teams.
Conclusion: In this simulation program, we realized that our medical rescue teams had good coordination with those five (people) groups. Simulation programs like these, make us ready for disaster and correct our mistakes. With disaster organizations we can have good communication with neighborhood cities and rescue teams, that help enable us to minimize local disaster damages.

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Comparison of Efficacy in Dispatch-Directed CPR (DCPR) for Out-of-Hospital Cardiac Arrest, Depending on Professional Levels of Dispatchers in Multiple Centers in Israel

Eli Jaffe, Oren Blueshtein, Ido Rosenblat, Daniel Z. Fainsod
Roman Sonkin Community Outreach, Magen David Adom in Israel, Tel Aviv Jaffo/Israel

Study/Objective: We sought to determine the efficacy of CPR directions, depending on the level of training of the dispatcher (EMT vs Paramedic) and years of experience as a dispatcher.

Background: Although the incidence of Out-of-Hospital Cardiac Arrest (OHCA) is increasing, mortality is decreasing due to, in large part, early recognition and initiation of the chain of survival including prompt CPR and defibrillation, followed by advanced cardiac life support and transport to an appropriate cardiac center. Israel is an ethnically varied society with a large proportion of the population spread between urban centers and rural areas. Magen David Adom (MDA) is the Israeli national EMS organization with first responders, EMTs and Paramedics as providers. In contrast with most EMS dispatch centers which follow algorithms to provide instructions, MDA employs EMTs and Paramedics who answer emergency calls and provide CPR instructions to lay first responders in cases of OHCA.
Methods: Retrospective analysis of emergency-call recordings during the first half of each month in a 6-month duration. Efficacy was measured by time to cardiac arrest diagnosis, time to initiation of compressions, absence of barriers and cooperation, and spontaneous return of consciousness/circulation.
Results: Preliminary analysis of the results shows a significant inverse relationship, between average time to recognition of cardiac arrest and initiation of compressions, to years of experience. Nevertheless, the average time to recognition and initiation of compressions was not significantly different for Paramedics than for EMTs. Moreover, dispatchers with more years of service experienced greater cooperation from callers.
Conclusion: This study shows that centers with dispatchers with field experience, are able to provide high quality direction for OHCA DCPR. Years of service and overall experience correlate with higher cooperation and possibly improved patient outcome. More research and further studies are necessary to compare the efficacy in comparison to algorithm-based DCPR, as well as to determine the actual improvement in patient outcome.

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Lessons from "Lehiwot Menor" Radio Show, and its Opportunities for Teaching Emergency Medicine to the Public in Ethiopia

Yonas Abebe
Emergency and Critical Care Nursing, St. Pauls' Hospital Millennium Medical College, Addis Ababa/Ethiopia

Study/Objective: To describe the lessons learned from the first two years of "Lehiwot Menor" (Living for Life), a radio show aimed at teaching basic emergency care principles to the general public in Ethiopia.
Background: In Ethiopia, despite a national initiative to standardize and strengthen prehospital and emergency care, the general public still lacks basic awareness regarding emergency care.
Methods: "Lehiwot Menor" is a twice weekly, one-hour radio show at Bisrat FM 101.1, broadcasting throughout Addis Ababa and neighboring cities since September 26, 2014. Founded and hosted by two nurses trained in emergency medicine and critical care. Lehiwot Menor seeks to educate the public on harm reduction and injury prevention, as well as appropriate use of prehospital ambulance and emergency services. This was a qualitative assessment on the impact of the show through discussions, text messaging, and social media portals with a station audience.
Results: Weekly live radio discussions with the public have helped disseminate information about the importance of emergency care in Ethiopia. Discussions have helped debunk several harmful traditional healing practices, while building awareness regarding appropriate prehospital lay response. Several new topics previously causing significant ethical dilemmas have also been introduced (eg, brain death evaluation). Public figures including actors/actresses, legislators, and journalists continue to participate in this teaching and increase public awareness. Additionally, Lehiwot Menor has served as a means of recruiting volunteers for first aid and blood donation.
Conclusion: Effective emergency care frequently starts with appropriate prehospital decisions made by lay first responders. These include basic resuscitation, as well as the decision to call for ambulance support or bring patients in for acute care evaluation. Radio programs like Lehiwot Menor can play an important role in helping teach the general public about early and appropriate utilization of emergency care, in settings where basic public awareness about these services is lacking.

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Emergency Medical Service Usage and its Effect on Outcomes in Road Traffic Accident Victims in India

Sravani Alluri, Srihari Cattamanchi, Amalia Voskanyan, Ritu R. Sarin, Michael S. Molloy, Gregory R. Ciottone
The BIDMC Fellowship in Disaster Medicine, Department of Emergency Medicine, Beth Israel Deaconess Medical Center, Boston/MA/United States of America

Study/Objective: A study of Emergency Medical Services (EMS) utilization for road traffic accidents (RTA) in southern India is proposed to determine 1) proportion of victims transported by ambulance and 2) crude morbidity and mortality rates in patients brought by ambulance versus other modalities.
Background: In 2005, an EMS "1-0-8 Ambulance" was launched in Hyderabad to confront absence of centralized emergency response and high mortality rates from RTA. The program expanded to 15 Indian states, with over 10,000 ambulances, but remains underdeveloped; mired by prolonged transit to definitive care sites and lack of pre-hospital EMS interventions. It is not known if EMS utilization in India improves outcomes. Further investigation is warranted to identify strengths and weaknesses of the Indian EMS system.
Methods: A retrospective chart review is proposed of four hospitals receiving patients from 1-0-8 services in South India. All patients presenting for emergent care following RTA in 2015-2016 will be included. Data on 1) demographics, 2) transport, 3) injury mechanism and description, 4) treatment course, and 5) outcome will be obtained from emergency department and hospital patient records using a standardized tool. Impact of EMS usage on trauma score, duration of hospital stay, ICU stay and mortality will be assessed.
Results: Data collection and analysis are expected to be completed by March 2017.