as methodological means of data collection is crucial to timely assessment of the affected populations' needs before humanitarian interventions, raising fund to fulfil these needs, and to assess the effects of the humanitarian aids that have been delivered. However, the factors of (1) insecurity; (2) limited resources; (3) vulnerability of the population; and (4) the potential cultural and moral differences among researchers and the surveyed populations make the research process methodologically and ethically challenging. The aim of this paper is to present the effects of these factors on the ethical review and implementation of research, with emphasis on the issues of benefit-risk analysis, conflict of interests, and informed consent. A practical framework for the ethical review that responds to the need of timely provision of information as well as promoting the adherence to the international ethical principles also will be provided.

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(A120) Implementation of Advanced Technologies in Emergency Medicine

S. Aleksanin,[1] V. Rybnikov[2]
1. Saint-Petersburg, Russian Federation
2. Education and Research, Saint-Petersburg, Russian Federation

Increase in the number of emergency situations (ES), technogenic accidents and disasters and terrorist threats defines the need for implementation of advanced medical technologies. One of these technologies is to deploy an airmobile hospital (AH) in emergency situation to provide skilled medical care in case of a large number of casualties. AH is equipped with inflatable modules, deployment of which takes no more than an hour. Each module is equipped with specialized departments. AH consists of triage department, OR, intensive care department, outpatient department, X-ray and diagnostic department and inpatient department as well. The station is equipped with modern intensive care unit including ALV apparatus, defibrillator-monitor with built-in pacemaker, as well as endovideosurgery complex, laboratory and telemedicine equipment, radiation control monitors, communication and global positioning units. One of the advanced technologies of emergency medicine is implementation of telemedicine equipment. EMERCOM of Russia on the basis of our institution has opened a telemedicine center that provides videoconferencing, any audio-visual information both text (extracts from case histories), and instrumental studies (radiographs, echograms, ECG, etc.). EMERCOM of Russia specialists use airmobile medicine technologies including specially equipped aviation facilities with airmobile medicine modules (aircraft, helicopter). In addition, we have developed a hardware system of individual monitoring the functional state of a rescuer. It is designed to transmit to the senior officer of the division the data about functional status of 10 rescuers (heart rate, respiratory rate, temperature), motor activity and the current coordinates to detect deterioration and freezing (immobilization) of the rescuer. The complex is equipped with an emergency radio-beacon to accelerate the search for a rescuer.

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(A121) Relation of Dopamine Dependent Hypotension with Outcome in Cervical Spine Injury Patients

A. T. D. Agarwal
JPN Apex Trauma Center, New Delhi, India

Background: It is believed that dopamine resistance sets in within 72–92 hours following therapy. However, in the authors' experience, spinal cord injury patients may require dopamine to maintain blood pressure over several weeks.
Objectives: This study aims to: (1) assess the incidence and duration of of dopamine dependence in cervical cord injury patients; and (2) find the relation (if any) of dopamine dependent hypotension with outcome of spinal cord injured patients.
Methods: This was a prospective, observational study carried out over 2-month period in the neurosurgery intensive care unit (ICU) at JPN Apex Trauma Centre, AIIMS. All cervical spine injury patients who had hypotension during the hospital stay were included in the study. History, clinical findings, requirement of ionotropic support, management, and outcome were recorded for all enrolled subjects.
Results: During the study period 48 patients were admitted with cervical spine injury in the ICU. Of these, 26 patients (54%) had hypotension and were constituted the study group. Eleven patients had complete spinal cord injury (power 0/5) and 15 patients had incomplete spinal cord injury. Twenty-four patients were on ventilator support and two were on oxygen masks. The mean dose of dopamine which the patient receives during the treatment was 7.5 mcg/kg/min with the maximum and minimum doses of 20mcg/kg/min and 2 mcg/kg/min. The mean duration of dopamine support was 17 days (Range 6–48 days). Eight patients (31%) required intermittent dopamine support and 18 patients (70%) required continuous support. The in-hospital mortality was 61% ($n = 16$). Mortality was significantly lower in patients who received intermittent ionotropic support as compared to those who required continuous ionotropic support ($p < 0.01$).
Conclusion: The patients with spinal cord injury are dependent on dopamine throughout their recovery period. The patients who required intermittent ionotropic support had significant better outcome compared to those who required continuous ionotropic support.

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(A122) Using Focused Operations Management Tools to Analyze and Alleviate Emergency Department Overcrowding

D. Schwartz,[1] B. Ronen,[2] J.S. Pliskin,[3] A. Goldberg[3]
1. Emergency Medicine, Beer Sheva, Israel
2. School of Business Administration, Tel Aviv, Israel
3. Health Care Management, Beer Sheva, Israel

Introduction: Emergency department overcrowding plagues departments worldwide with grave implications on patient comfort and care quality. Many standard approaches have been introduced without widespread success. A new approach is required. Focused Operations Management (FM) integrates novel managerial theories and practical tools into a systematic approach to complex systems, promoting insight and improving performance. It has allowed systems in the industry and service sectors to