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Study/Objective: To assess whether there is a difference in hospital workload for treating weapon-wounded females compared to males.

Background: Civilians constitute 33–51% of victims in armed conflict. Several reports on civilian injuries exist but few are focusing on injuries afflicting females. We analyzed routinely collected data on weapon-related injuries from the International Committee of the Red Cross (ICRC) hospital in northwestern Pakistan, in order to define injury-patterns and type of surgical treatment for admitted females.

Methods: A total of 3,028 patient-files (376 adult females) from consecutively admitted patients to the ICRC-hospital in Peshawar, from February 2009 to May 2012 constitutes the study. Information regarding injury-mechanism, time since injury, vital parameters at admission, type of injury, treatment and basic outcome were extracted from the files, and prospectively registered and retrospectively analyzed. Comparisons between gender and age-groups were done by cross-table analyzes or non-parametric tests when appropriate.

Results: Females were younger than males (20 vs 25 years, $p < 0.001$), arrived sooner after injury (24 vs 48 hours, $p < 0.001$) and were victims of bombs and missiles more frequently (64% vs 57%, $p < 0.001$). Vital parameters such as systolic blood-pressure (110 vs 112 mmHg, $p < 0.001$) and pulse-rate (100 vs 90, $p < 0.001$) were more affected at admission. Females were subjected to surgery (83% vs 77%, $p < 0.05$) and given blood transfusions more often (19 vs 14%, $p < 0.01$). No differences in amputations or inhospital mortality were noticed.

Conclusion: Females treated at the ICRC-hospital in northwestern Pakistan are markedly affected by indiscriminate weapons such as bombs and missiles. Their consumption of surgery is greater than indicated by their numbers, which might have an impact on planning for staffing, and premises in similar contexts.

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War Surgical Treatment of Comminute Fractures Requires more Resources than Isolated Life Threatening Wounds

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Study/Objective: To assess whether war wound severity corresponds to consumption of resources in a limited resource setting.

Background: The International Committee of the Red Cross (ICRC) has developed a Wound Classification system (RCWC) for assessing war wound severity. The RCWC score is based on wound size, tissue involved, existence of fracture and if there is threat to limb and/or life. Whether or not the RCWC score corresponds to consumption of resources has not previously been studied.

Methods: Data from 1,573 patients was analyzed from a prospectively created database containing information from patients treated at ICRC's hospital for war wounded in Peshawar, Pakistan, between 2009–2012. High resource consumption was defined as ≥ 3 operations, amputation, ≥ 3 blood transfusions or ≥ 15 days of hospital stay. The relationship between RCWC and high resource consumption was assessed with logistic regression analysis.

Results: Age (median) was 24 years (0,5–84). Patients were 87% male, and 18% were < 16 years. 55% were treated within 24 hrs of injury. The main causes of injury were blast/fragment (56%) and gunshot (37%). Only 32% had soft tissue injury, 43% had a fracture and 25% had wounds threatening limb and/or life. Treatment of extensive soft tissue injury required more resources than simple fractures (odds ratio 12,11, 95% CI: 5,50–26,68 vs. 2,35, 95% CI:1,61–3,43). Comminute fractures consumed more resources (OR 8,44, 95% CI: 5,93–12,00), than isolated life threatening wounds (OR 3,70, 95% CI: 2,42–5,65). There was 15% of the patients with life threatening wounds, and 5% of all patients died during treatment.

Conclusion: Treatment of comminute fractures required, somewhat unexpectedly, more resources than isolated life threatening wounds. A potential relationship between certain RCWC groups and high resource consumption could be seen. However, this requires further analysis to establish.

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Medical Formations of EMERCOM of Russia and their Experience in Providing Emergency Medical Assistance to Emergency-Affected in Russia and Foreign Countries

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Study/Objective: Ministry of Russian Federation for Civil Defense, Emergencies and Elimination of Consequences of Natural Disasters (EMERCOM) of Russia includes medical formations for providing Emergency Medical Services (EMS). At mass casualties disasters EMS is provided directly in the disaster zone, or in specialized medical institutions using Air-mobile Hospital (AH) or air medical evacuation correspondingly. The objective is to assess and analyze the efficiency of the formations at emergencies and verify sufficiency of their personnel and material-technical supply.

Background: AH was organized in March 1995 as a part of Central Airmobile Search-Rescue Team “Tsentros pas”, and it has 2 deployment variants. Also created was a system of air medical evacuations including aviation, air medical teams, specialized equipment (intensive care module, telemedicine, transport extracorporeal membrane oxygenation and special setups). Nikiforov Russian Center of Emergency and Radiation Medicine (Saint-Petersburg) is a multi-disciplinary medical-diagnostic, research-education institution within EMERCOM of Russia aimed at providing EMS at the prehospital stage.

Methods: Review the analytical method that was used for this study.

Results: AH can be delivered to emergency areas in air-landing and air-assaulting variants; it can provide EMS in autonomous mode in cases of a difficult access area and harsh climate. World Health Organization (WHO), International Certification Committee classified AH EMERCOM of Russia as FMT type 2 on May 19, 2016. For emergency medical response, EMERCOM has developed and is using an innovative means of personnel delivery and medical evacuation (mobile multifunctional medical-diagnostic unit, amphibious air-cushion craft with removable medical and fire-fighting modules, specialized resuscitation ambulance). Over the last 10 years AH provided EMS in Russia and other foreign countries (Serbia, Afghanistan, Iran, Sri-Lanka, Indonesia, Pakistan, China, Haiti and Chile) including therapy and pediatric care (over 9,000 people), traumatology (over 7,000 people), and surgeries under general anesthesia (over 600).

Conclusion: Both AH deployment variants has shown high efficiency depending on the situation. All possible forms of AH delivery to deployment areas were used. All specialized organic and non-organic formations of EMERCOM of Russia provided efficient EMS at the prehospital stage.

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A Consultation-based Study about Core Competencies of Emergency Medical Rescue Strength of the People's Armed Police

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Study/Objective: To establish an evaluation system regarding the capability of emergency medical rescue strength of the People's Armed Police (PAP).

Background: Over the past 30 years, various disasters happened in a significantly increasing frequency and intensity, and the tendency will continue in the future. In order to respond effectively to disasters and reduce damage, every country in the world has reinforced the research and practice of emergency medical rescue. As the leading strength to cope with emergency accidents, Chinese People's Armed Police (PAP) participated in emergency rescue many times to cope with earthquake debris flow, floods, and other disasters. In response, emergency medical rescue detachments were established one-by-one in PAP. Lacking in consistent capability evaluation standards, the

capability of each detachment varies, which greatly influences the global construction pace of emergency rescue forces from PAP.

Methods: In view of the capability and quality of emergency medical rescue strength, the Delphi method was used. All experts from the discipline of emergency management, health service, preventive medicine, clinical medicine, and rescue medicine received the consultation. All experts were qualified Associate Professors or Professors. The consultation involved such items as: appropriateness of indicators setting, comprehensiveness, and overall weight distribution of indicators. After two rounds of consultations, an evaluation system of capability indexes and their corresponding weights were determined.

Results: Through consultations, the evaluation system of capability indexes was formulated including seven first-grade indexes, 16 second-grades, and 42 third-grades. This involves organization and command, emergency maneuvers, injury treatment, medicine support, sorting, medical evacuation, quarantine protection, defense, and survival. Through analysis, it was found that the weight distribution of each index was rational and consistent with practical work.

Conclusion: The establishment of the evaluation system of capability indexes has provided an objective criteria and scientific basis for the construction of emergency medical rescue strength of PAP.

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Upgrading the Treatment of Pediatric Trauma in Israel

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Study/Objective: Advertising expert committee recommendations for program improvement and upgrading of child care trauma cases treated in Israeli hospitals in cases of moderate and severe injuries.

Background: Israel established the national trauma care system in the 1990's. It included a trauma unit at hospitals, the combination of paramedics and intensive care ambulances, the Magen David Adom (MDA EMS), established the National Trauma Registry, constructed and reorganized the emergency medicine departments, Advanced Trauma Life Support (ATLS) courses for doctors, technological improvements significantly in intensive care units, reducing response times and more. These and others led to a reduction in mortality of the severely wounded and those in critical condition. However, children's injuries are still the leading cause of significant mortality and morbidity of children older than 1-year. Therefore, pediatric trauma is a serious problem of public health and a perceived social and economic burden. Moreover, it causes premature death, disabilities, impaired quality of life, and a burden on society and the victims' families.

Methods: In Israel, most trauma therapists who are mostly general surgeons have not had enough experience with children. On the other hand, pediatricians have knowledge and experience in child care but not in trauma. This causes the existing gaps in child care, in both a prehospital compound and a hospital.