

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

EMERGENCY MEDICAL TEAMS

Beyond EMT 2 Minimum Standards

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Introduction: The World Health Organization's (WHO) minimum standards are used to verify Emergency Medical Teams (EMTs) internationally. The National Critical Care and Trauma Response Center (NCCTRC) was one of the first few EMT 2 verified teams globally.

Aim: The NCCTRC aims to innovate and provide leadership in the provision of best practice clinical care in the EMT 2 setting in disaster-affected countries.

Methods: The NCCTRC developed a clinical governance framework and committee with a view of improving practice in the deployed environment. A gap analysis against the Australian National Standards was done and a decision was made to proceed with accreditation against the ACHS EQUIP 6 framework.

Results: The process of accreditation required a self-assessment that identified gaps in our guidelines and care processes thereby leading to innovative projects to meet the criterion in a sustainable way for the deployed field hospital environment. The NCCTRC has developed adapted clinical tools to manage pressure injury, falls risk, handover, hand hygiene, audits, and consumer feedback.

Discussion: The deployed field hospital environment can meet national accreditation standards for clinical care. The WHO minimum standards were introduced in 2013 and serve as a marker of the minimum requirements in the field. The challenge is to do better than the minimum. This study demonstrated that it is possible to adapt hospital accreditation standards to the field environment and provide a higher, safer quality of care to affected populations. EMT teams should maintain their clinical care standards from their home environment wherever possible in the field hospital environment. Striving to provide the best and safest care is the duty of care for vulnerable populations.

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Development of a Mobile Laboratory for Sudden Onset Disasters

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Introduction: Clinical diagnostics in sudden-onset disasters (SOD) has historically been limited. With poor supply routes, lack of a cold chain, and challenging environmental conditions, many diagnostic platforms are unsuitable.

Aim: We set out to design, implement, and evaluate a mobile diagnostic laboratory accompanying a type II emergency medical team (EMT) field hospital.

Methods: Available diagnostic platforms were reviewed and selected against infield need. Platforms included HemoCue301/WBC DIFF, i-STAT, BioFire multiplex RT-PCR, Olympus BX53 microscopy, ABO/Rh Grouping, and specific rapid diagnostic tests (RDT). This equipment was trialed in Katherine, Australia and Dili, Timor-Leste.

Results: During the initial deployment, validation of FilmArray rt-PCR multiplex tests was successful on blood culture, gastrointestinal, and respiratory panels. HemoCue301 (n = 20) haemoglobin values were compared on Sysmex XN 550 (r = 0.94). Analysis of HemoCue WBC DIFF samples had some variation when compared to Sysmex XN 550, (neutrophils r = 0.88, lymphocytes r = 0.49, monocytes r = 0.16, eosinophils r = 0.70, basophils r = 0.16). i-STAT showed non-significant differences for CHEM4 (n=10), CG8 (n = 10), and TnI (n = 5) against Vitros 250. A further trial of BioFire rt-PCR testing in Dili, Timor-Leste diagnosed 117 causative pathogens on 168 FilmArray test cartridges.

Discussion: This mobile laboratory represents a major advance in SOD. Setup of the service was quick (<24hr) and transport to site rapidly. Training was simple and performance consistent. Future deployment in fragmented health systems after sudden onset disasters with EMT2 will now allow broader diagnostics.

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Emergency Medical Teams in ASEAN Region - Challenges for Global EMT Classification

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Introduction: Quality assurance of Emergency Medical Teams (EMTs) is a world concern. The World Health Organization (WHO) published an international guideline for EMTs in

2013 and started the global EMT classification, a quality assurance program for EMTs, in 2015. There are 16 classified EMTs in the world as of October 2018. The Association of Southeast Asian Nations (ASEAN) region is a disaster-prone area. Therefore, the need for EMTs is relatively high. However, there is no classified EMT in the ASEAN region. Factors that prevent the global classification of EMTs in the ASEAN region are unknown.

Aim: The objective of this study was to analyze the inhibitory factors of the global EMT classification in the ASEAN region.

Methods: A questionnaire survey was taken to the 10 national groups of ASEAN countries. Each group consisted of EMT-related personnel. They were 39 participants for the third AMS Training of the ARCH Project held in May 2018. 10 national groups were asked to answer whether governmental EMT of their country is able to meet the criteria for the EMT global classification. The criteria were written in the WHO-provided minimum standard self-assessment checklist for the Type 1 fixed EMT.

Results: Among 39 categories in the self-assessment checklist, 5 were the most difficult categories to meet the criteria: [Core Standards] Self-sufficiency, Sanitation, and Waste Management; Indemnity and Malpractice; [Technical Standards] Logistics; EMT Capacity.

Discussion: There are some limitations to the study. Non-governmental EMTs were not covered. Participants of the training were not at the official EMT focal point for the global EMT classification. Logistical requirements may be inhibitory factors of the global EMT classification in the ASEAN region.

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The Evaluation of the World Health Organization's Minimum Dataset in Disaster Health Management in the Association of Southeast Asian Nations

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Introduction: The Minimum Data Set (MDS) developed by the World Health Organization (WHO) has been widely used among medical practitioners in International Emergency Medical Team (I-EMT) as tools to collect health information and statistics in disaster health management. The I-EMT submits MDS to the Emergency Medical Team Coordination Cell (EMTCC) for the planning of responses. The Project for Strengthening the Association of Southeast Asian Nations (ASEAN) Regional Capacity on Disaster Health Management (ARCH Project) is the ASEAN's project that has applied MDS to its activities with the main purpose of strengthening informational management during a disaster.

Aim: The study aims to evaluate the performance of MDS after being utilized in the Regional Collaboration Drill (RCD) organized by the ARCH Project in July 2017.

Methods: The performance of MDS has been evaluated by ten International Emergency Medical Team (I-EMT) of ASEAN Member States who participated in the RCD.

Results: The assessment forms were returned by ten I-EMTs, and all respondents addressed several points for the revision of MDS (10/10), including the format and the content of the MDS. Concerning the format, respondents stated that the fonts are too small (3/10), and spaces for recording additional information are needed (3/10). On the other hand, the majority of respondents suggested that some of the contents within the MDS are still unclear or some terminologies are needed to be further clarified (6/10), especially with the referral form (5/10).

Discussion: The current version of the MDS utilized for the EMT coordination should be edited and revised for its optimal usage. Applying MDS to disaster simulation is an efficient approach to test its application.

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International Disaster Medical Relief of China: Lessons and Practices

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Aim: This descriptive study explored barriers and difficulties faced by an international disaster relief team from China, which took part in two types of international disaster relief missions.

Methods: Data was collected since the founding of the Chinese international disaster relief team, including information on team composition, operational hours, and average number of patients rescued and treated by staff per day, etc.

Results: Overall, thirteen disaster relief missions utilizing the Chinese disaster relief team occurred in eight countries. All the operations were divided into two kinds of models: Urban Search and Rescue mission, and Emergency Medical service. The first model consisted of search, rescue, and emergency medical services on site. The ratio of medical staff on the team accounted for 18.8%. According to the six international health-based operations, the team was deployed ten days following the disaster, with an average working time of 17.8 days, and benefiting around 6,812 wounded and sick persons per operation. Compared with these two models, medical-based operations deployed more staff after the disaster and had a longer window of operation. The beneficiaries of medical-based operations are ten times greater than those of rescue-based operations. The differences are distinct.

Discussion: Missions will better meet the needs of international relief by enhancing organizational coordination among medical teams around the world, and by contributing to the communication between teams. They will further benefit from technical capacity building, regional coordination trainings, formatting the standard of teaming building, and evaluation of the work.

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Research on the Design of a Training Course for an International Emergency Medical Team

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