EDUCATION, TRAINING, AND SIMULATION

Preliminary Analysis of the Competencies Needed by EMTs Members to Address Safety and Security when Deployed to Unsecured Environments: A scoping review of the available evidence

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Introduction: During armed conflicts and other situations of violence, EMTs are deployed to respond to the needs of the affected population. It is when fighting breaks out that health-care services are most needed, but it is also when they are most exposed to violence and insecurity. Current evidence indicates that health personnel, health infrastructure and patients have been the target of different types of attacks.

A new report published on 24 of May 2022 by the Safeguarding Health in Conflict Coalition identified there were 1,335 incidents of violence or obstruction against health care perpetrated in 2021: 161 health workers killed; 320 injured; 170 kidnapped; 713 arrested. Health facilities were destroyed or damaged in 188 incidents, 111 health transports destroyed or damaged and 64 health transports stolen or hijacked.

In a nutshell, health facilities and health workers were subjected to devastating and widespread violence and obstruction of care in 49 conflict-affected countries in 2021.

Method: This presentation analyzes the current challenges, describes the method used consisting of a scoping review of the available evidence in addition to semi-structured feedback from key stakeholders working in unsecured environments, and supports the identification of skills and competencies that EMT members need before deployment. This presentation will also propose the definition of skills and competencies for EMT members needed before deployment to unsecured environments.

Results: Recommendations for future action focus on International norms and standards, a competencies framework, evidence and data, and state-of-the-art competencies to address safety and security during deployment needed for a capability-building framework.

Conclusion: How to optimize EMTs' response in unsecured environments requires designing training and learning pathways that improve skills and knowledge on safety and security for EMT members before their deployment to prevent and mitigate violence against health care during deployment in unsecured environments.

The Effects of Including Blood in First Aid Training on Confidence in Bleeding Control Ability and Intent to Aid

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Introduction: Educational initiatives such as Stop the Bleed continue to educate medical laypeople in first aid for massive bleedings. The effect of including realistic blood early in Stop the Bleed-type training remains unknown. The aim of this study was to investigate the effects of including realistic blood early in a Stop the Bleed-type training on medical laypeople's intent to provide future aid and self-perceived ability to provide aid.

Method: In total, 46 medical laypeople participated in this study. Two bleeding control tasks, wound packing and tourniquet application, were performed in a simulated scenario on a manikin with a wound. Participants received brief Stop the Bleed-type training and were divided into two groups: with (Blood) or without (Control) blood present during the tasks. After the experiment, two surveys were administered, one on confidence in their ability to perform each task, and a previously established survey on their intent to aid a bleeding victim in real-life situations.

Results: The post-trial survey showed that the participants in the Blood group had lower confidence than the Control group in their wound packing ability ($M_{Blood} = 2.09$, $SD_{Blood} = 0.85$; $M_{Control} = 3.04$, $SD_{Control} = 0.86$, $t(43) = 3.725$, $p < .001$, but not regarding their tourniquet application ability, $t(43) = 0.019$, $p = 0.985$. Further, there was no difference between the groups in their intent to aid in future real accidents ($M_{Blood} = 91.00$, $SD_{Blood} = 6.10$: $M_{Control} = 90.39$, $SD_{Control} = 8.30$), $t(43) = 0.282$, $p = .782$.

Conclusion: This study shows that introducing realistic blood early in Stop the bleed-type training of laypeople results in decreased confidence in their wound packing ability. However, it does not decrease their intent to aid in future emergencies. Future studies should investigate when and how complicating factors such as blood should be introduced in laypeople hemorrhage control training.

Preparation of Hospital Disaster Plan in Indonesia: The Mentoring Challenges from Offline to Online Program

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Introduction: Located in a disaster-prone country, more than 3000 hospitals in Indonesia must have a Hospital Disaster Plan (HDP). Instead of pursuing only the hospital accreditation

requirements, HDP should be beyond that. Since 2008, CHPM UGM has been providing various HDP training. However, during the COVID-19 pandemic, there was a change in offline assistance that shifts to online. This study reports the learning activities, output, and challenges.

Method: There were three batches of HDP-paid online courses in 2021. Each batch consists of three series courses. The first series was a basic HDP seminar. The second series was for intensive HDP mentoring for two months. In the second series, the participants focused on analyzing risk and hospital safety index (HSI), detailing job action sheets, and detailing disaster standard operating procedures. Moreover, the third series in the fourth month was an online tabletop exercise (TTX).

Results: 25 hospitals and 112 people participated. However, only five hospitals that committed finalized the HDP document. The learning process challenges were the participant's unstable network and their focus on who was on duty while attending the courses. Although the TTX online was a new trial, it worked to asses hospital preparedness for disaster management through well preparation, detailed scenario and proper evaluation instrument. However, it was still difficult to assist participants in completing the HDP documents online, because observation of the hospital environment cannot be carried out while the evidence provided by participants were limited, for example supporting evidence for the HSI indicators.

Conclusion: The online series of HDP is feasible because it saves accommodation and transportation costs. However, the intensive online mentoring should be carried out longer to allow participants to do assignments and collect evidence of indicators that must be shown to the facilitators.

The Effect of Different Degrees of Cold Exposure on Medical Laypeople's Tourniquet Application Time and Quality: A Within-Group Trial

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Introduction: Cold exposure generally has a negative effect on tasks that rely on finger dexterity. It is not known if cold exposure will affect medical laypeople's ability to perform first aid for life-threatening bleedings, specifically tourniquet application. This study investigates the effect of cold exposure on medical laypeople's tourniquet application ability.

Method: Twenty-nine adult medical laypersons received brief tourniquet application training and then completed a tourniquet application test in a baseline condition and three partial cold immersion conditions where their hands were immersed in nearly 0°C water. The three cold immersion conditions were 16°C, 12°C, and 8°C hand-skin temperature. Tourniquet application quality was measured using a procedural checklist. Time until bleeding control was also measured.

Results: The results show that cold exposure significantly increases the time to bleeding control, $F(3, 84) = 5.42$, $p < .01$, $\eta^2 = .05$. Planned contrasts revealed a significant increase in time between baseline and 8°C hand-skin temperature ($M_{baseline} = 65.5s$, SD = 17.0; $M_{8°C} = 76.9s$, SD = 19.6), $t(28) = 3.77$, $p < .01$, $r = 0.38$. No effect was found on the procedural application quality, $F(3, 84) = 2.21$, $p = .09$.

Conclusion: Cold exposure can decrease the chance of survival for the injured person when a medical layperson provides first aid for life-threatening bleedings due to increased application time. The results can also be used when educating medical laypeople in first aid for life-threatening bleedings as it provides evidence of specific effects from a stressor that is common in regions with cold climate. Future research should be aimed at exploring possible mitigation strategies such as tourniquet design or rewarming procedures and investigating if a similar effect exists for prehospital professionals.

Regional Program for Knowledge Co-creation on Disaster Health Management in ASEAN and Japan

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Introduction: Knowledge management on Disaster Health Management (DHM) is one of the priority areas in the Plan of Action to implement the ASEAN Leaders' Declaration on DHM (POA/ ALD DHM) (2019-2025). The Japan International Cooperation Agency (JICA) has been implementing the Project for Strengthening the ASEAN Regional Capacity on Disaster Health Management (ARCH Project) since 2016 to assist the ASEAN region in strengthening coordination capacity on DHM. A regional training course on DHM for ASEAN member states (AMS) in Japan was proposed to be implemented in 2022 as a JICA's Knowledge Co-creation Program (KCCP).

Method: The training curriculum of the KCCP included emergency and disaster medicine in Japan, international trends on DHM, and underwent reviews by AMS representatives of the ARCH Project. Prior to the training, participants were required to prepare country reports (CRs) outlining information on legislation, system and structure related to emergency and