Prehospital preparedness for chemical threats

A pilot study among EMS personnel in VGR, Sweden

Master thesis 30 ECTS credits in Medicine

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Gothenburg, Sweden 2014
Abstract

Background: Historians label the period following World War II as the “New Chemical Age” since it witnessed a dramatic increase in global chemical output and thereby exposure for chemicals. As chemical accidents may escalate due to global exposure, transportation, terrorism or war, prehospital emergency medical teams, the frontline of the healthcare system, may face a challenging task in managing such a situation.

Objective: The objective of this study was to examine and identify the Emergency Medicine Services (EMS) personnel’s level of knowledge, state of preparedness, perceptions and willingness to report to work during any kind of chemical threats in Region Västra Götaland (VGR) and, if possible, compare this to similar factors affecting the prehospital EMS in Israel.

Method: A questionnaire including 29 multiple-choice questions concerning preparedness, resources, willingness to report to work during chemical warfare (CW) events and medical knowledge to manage affected patients in a chemical event was distributed (n = 85) to the five units within the prehospital EMS units in VGR.

Results: The response rate was 23.5 % and conclusions must therefore be drawn with caution. The results indicated that the knowledge and preparedness concerning chemical events was deficient within VGR. The willingness to report to work during chemical events was low.

Discussion: Due to the limited number of participants, a more accurate conclusion cannot be achieved. However, knowledge is needed in order to obtain skills and skills are crucial in order to increase staff’s competence to manage unpredictable events, including a chemical incident. Thus, this pilot study may still offer insights and indicate a need for additional
studies, more adapted to Sweden and with more relevant questions concerning chemical events, that may produce more statistically significant results.

**Conclusion:** Although the result of this study is not conclusive due to insufficient statistical analysis, it seems however, that prehospital healthcare workers in VGR should be exposed to rare hazards through educational and training programmes aimed at improving their preparedness, prior to actual occurrence of the threat, such as CW event. This may increase staff’s motivation to report to work during chemical events.

**Keywords:** Prehospital care, chemical preparedness, ability, knowledge, skills, vital role, willingness