

Preparedness: Lebanese Hospitals Facing Chemical Threats



Georges Saad
RN, MBAIP, EMS & HEMS Manager
Saint George Hospital,
University Medical Center



As it was well known in Lebanon, both the medical staff working in health facilities and the first responders working at emergency medical services or fire brigade were not able to deal with any Chemical, Biological, Radiological and Nuclear (CBRN) incident. In addition, they were not capable of handling and managing any relative event due to the lack of knowledge, training, equipment and incentives.

During the different Lebanese wars, the health care providers were able to deal with mass casualties' incidents resulting from shelling and car bomb explosions. Their gained experience from such situations gave them advantages to be leaders in this field. However, it kept them as beginners in the management of Chemical, Biological, Radiological, Nuclear and Explosive (CBRNE) incidents.



On the 21th of August 2013, during the Syrian Civil war, a Chemical Nerve agent (The Sarin nerve gas) attack took place in eastern Ghouta, near Damascus. The large number of casualties there (estimated around 1300) and the open and uncontrollable borders between Lebanon and Syria caused panic and confusion among all Lebanese citizens. Consequently, Lebanese people in charge worked on preparing themselves by all means to face any potential "terrorist chemical attack" by nerve agents, such as, Sarin, Tabun, Soman, Mustard, and VX. The Lebanese Ministry of Health, financially supported by the World Health Organization and in cooperation with the Lebanese Syndicate of Hospitals, took immediate actions. They worked on increasing the preparedness and response capabilities of healthcare providers in many governmental and private Lebanese hospitals, especially the ones existing near to the Syrian borders.

In the beginning of 2013, CBRN incident management training started and focused on Chemical threats. They included Triage, Medical Management, and Decontamination. In addition, personal protective equipment workshops were held. Till the moment and based on the MOH data, about 120 health institutions have received training and an adequate

number of Personal Protective Equipments (PPE) levels D and C. PPEs included respirators, full face masks, chemical boots, gloves, and other related products. Some private hospitals, that believe in "an ounce of prevention is worth a pound of cure", assigned professionals to highly train their medical and non-medical staff to better react and support other governmental institutions in managing MCI's and CBRN occurrences.



Saint George Hospital University Medical Center was one of the hospitals that trained its medical staff, on dealing with critical situations and created teams that can act immediately in an effective manner and in different circumstances. Those teams are:

- Emergency and Disaster Team who can work behind the hospital's walls.
- Aeromedical Team, to work on helicopters and support the Army forces in evacuating and treating injuries.
- HAZMAT team to deal with CBRN incident or to support other organization, equipped with mobile decontamination

equipment for set up in front and outside the hospital. **In response to any Mass casualties events resulted from chemical nerve agents, the health facility needs to act immediately and in a proper manner. Increasing the level at the facility is mandatory, set up the decontamination area outside the hospital is preferable to keep hazards far enough from internal wards.** It is reasonable to assume that during a chemical nerve gaz agent event, not all people will be contaminated, but the ones who are, might be dead or in critical situation because they will not have enough time to be saved if not evacuated within 5 to 20 minutes depending on the type of gaz used, and without protecting their respiratory system.

Most likely, during any Chemical incident, many potential and contaminated victims may have self-evacuated, they will reach hospitals before securing the scene of incident or starting gross decontamination. In this situation any patient flow may cause critical problems to the first responders; decontamination operations must be integrated immediately as soon as we identify the hazard; initial medical triage and right treatment are essential for a successful responding system.

CBRN incidents will keep presenting different challenges at all levels to every one, including decision makers and first responders. Continious training and preparations with strong cooperation and coordination between all parties may decrease the impact of an event on healthcare providers. But the most effective solution to protect ourselves and the population is to negotiate and eliminate the reasons of their existance.

