

Letter to Editor

Mass and Serial Poisoning: Medico-legal Considerations and Requirements



Kambiz Soltaninejad^{1*}

1. Department of Forensic Toxicology, Legal Medicine Research Center, Legal Medicine Organization, Tehran, Iran.



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Mass poisoning is defined as the poisoning (with or without a fatality) of three or more victims in a single location and event. Also, serial poisoning refers to the poisoning at different time intervals (over days, months, or years) [1]. Mass or serial poisoning is rare but important from medical, social, political, forensic, and security aspects. In previous decades, mass and serial poisoning events with natural or man-made origin have occurred in Iran. Some examples are as follows: mass poisoning due to the use of chemical weapons (mainly nerve agents and sulfur mustard) by the Iraqi army against Iranian soldiers during the Iran-Iraq war (1980-1988) [2], mushroom mass poisoning outbreak (during 2018) [3], lead poisoning outbreak among opium users (2016-2017) [4], methanol mass poisoning due to consumption of adulterated alcoholic beverages and products during COVID-19 pandemic (2020) [5] and recent serial poisoning in schoolgirls (from November 30, 2022, until March 13, 2023) [6].

In all aforementioned events, medico-legal and forensic toxicological investigations had a crucial role in the detection and documentation of the cause of the mass poisoning outbreak for medical, forensic, and health countermeasures. Because of the high frequency of these

types of poisonings in the country and in meeting the challenges of mass and serial poisoning in a forensic setting, some considerations are suggested. Continuous education of forensic medicine and toxicology specialists for the management of the event scene (especially proper sampling for chemical/toxicological analysis and training for safe handling and transport of the samples) should be considered. Also, the inclusion of the educational syllabus about chemical, biological, radiological, and nuclear (CBRN) terrorism and risks should be regarded in the forensic medicine and toxicology specialty curriculum. Also, collaboration with medical/health providers, legal, security, and governmental authorities, equipping the forensic toxicology laboratories with sophisticated analytical instruments, and data sharing between reputable laboratories from academic, hospital, and defense authorities should be recommended. Forensic toxicologists should be trained in clinical toxicology, safe sample preparation, and possible screening and/or confirmation analysis of samples exposed to or containing hazardous chemicals, such as blister, blood, nerve, pulmonary, and riot control agents [7]. In forensic settings, toxicologists should engage in consultation with law professionals. Finally, the preparation of related, evidence-based, and up-to-date guidelines for comprehensive medico-legal countermeasures in mass/serial poisoning cases should be considered in the country.

* Corresponding Author:

Kambiz Soltaninejad, PhD.

Address: Department of Forensic Toxicology, Legal Medicine Research Center, Legal Medicine Organization, Tehran, Iran.

Tel: +98 (21) 55613731

E-mail: kamsoltaninejad@gmail.com

Ethical Considerations

Compliance with ethical guidelines

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Conflict of interest

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