## CASE STUDY

# **COVID-19 and methanol** poisoning in Azerbaijan

### Azerbaijan

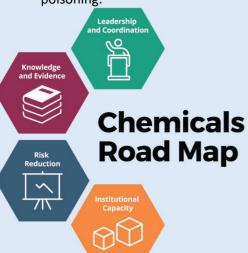
This case study describes the impact of the coronavirus disease 2019 (COVID-19) pandemic on methanol poisonings in Azerbaijan and possible ways to increase the country's capacity in chemicals management.

#### **Goals and Objectives**

The goal of this case study is to increase the capacity of the public health system in Azerbaijan in management of methanol poisoning, as well as to inform the population about possible preventive measures based on assessment of poisonings due to the COVID-19 pandemic.

The objectives of the case study are to:

- carry out a detailed epidemiological study of acute methanol intoxication cases in order to identify potential causes and sources of poisoning;
- elaborate proposals to strengthen the capacity of the health-care system in diagnosis and management of methanol poisoning, including strengthening the role of the poison control centre; and
- develop and implement measures aimed at raising public awareness about prevention of methanol poisoning.



## **Project Overview**

#### **Context**

The global pandemic caused by the new coronavirus disease 2019 (COVID-19) has not only been a stressful and serious test for health systems in many countries around the world, but has also had a significant impact on the incidence of acute poisoning due to various chemicals and drugs.

Initial comparative analysis of the State Poison Center's data for the latter nine months of 2020 (March – December) with the same period in 2019 showed that acute alcohol surrogates poisoning increased by more than 3000% and mortality rate from this pathology rose up to 50%. This unexpected situation has led to a certain unpreparedness of the country's health system for such a dramatic increase in the number of cases of methanol poisoning, and has revealed significant logistical, human, information and other problems in the management of chemicals.

#### **Approach**

Within the framework of this project:

- epidemiological investigation of methanol and other alcohol surrogate acute intoxication cases in Azerbaijan during the COVID-19 pandemic was conducted;
- guidelines for health-care workers on the diagnosis and treatment of methanol and alcohol surrogates poisoning in the state language were published;
- online training for ambulance and primary health-care doctors on the diagnosis and treatment of methanol and alcohol surrogates poisoning was organized; and
- measures aimed at raising public awareness about the prevention of methanol and alcohol surrogate poisoning were grounded and implemented.

World Health Organization

#### Results

Two peaks of methanol poisoning during the COVID-19 pandemic in Azerbaijan were detected – the first one was associated with the use of counterfeit alcohol drinks, and the second one was connected to the use of counterfeit medical alcohol and alcohol-based disinfectants. The alleged source of methyl alcohol on the black market was also identified.

Factors leading to severe intoxication and high mortality of methanolpoisoned patients in Azerbaijan were identified, including late diagnosis, gaps in skills and knowledge of medical staff, insufficient capacity of laboratories and diagnostic facilities, lack of necessary antidotes in hospitals, etc.

Based on the results, two national webinars on "Methanol and other alcohol surrogate poisoning" and "Diagnosis and treatment of acute poisoning on pre-hospital stage" were organized by the Ministry of Health, the State Agency for Compulsory Medical Insurance and the Azerbaijan Toxicologists Society.

Two guidelines approved by the Ministry of Health were issued to doctors, entitled "Alcohol surrogate poisoning" and "Diagnosis and treatment of acute poisoning on pre-hospital stage".

Steps were taken to raise awareness among the general public and individuals in vulnerable groups on measures to prevent methanol and alcohol surrogate poisoning (booklets, media appearances, etc.).

#### Lessons Learned

Based on the results, it was revealed that:

- the toxicovigilance and poison information systems in Azerbaijan require optimization;
- the primary health-care doctors and state ambulance service personnel are not well informed and not qualified in the diagnosis and treatment of acute poisoning;
- hospitals are insufficiently provided with vital antidotes, such as fomepizole and some others; and
- the preparedness of the country's health sector response to mass poisoning casualties should be strengthened.

Azeri Toxicologists Society. The named authors alone are responsible for the views expressed in this publication

#### Recommendations

It is necessary to constantly identify and evaluate poisoning risks existing within a community.

The country must have stock of vital antidotes according to the World Health Organization (WHO) list, due to the possibility of massive toxicological incidents.

Knowledge of health-care professionals on the diagnosis and treatment of acute poisoning needs to be constantly maintained.

This case study was authored by Associate Professor İsmayil Afandiyev, MD, PhD, FEAPCCT, and the





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