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A World Free of Chemical Weapons: Why It Is So Difficult

By Tan Teck Boon

Synopsis

There has been an uptick in chemical attacks around the world recently. More needs to be done to curb the production and use of chemical weapons. Even so, fully eradicating them will be an uphill task.

Commentary

AN APPARENT chemical attack on civilians in Douma, Syria recently prompted the United States, United Kingdom and France to launch retaliatory airstrikes against the Assad regime. Much remains unclear at this point about the attack except that hundreds of Douma residents suffered from symptoms consistent with a chemical attack. They included difficulty breathing, burning eyes and foaming from the mouth. About 70 people died from that attack.

Yet, this is not the first time chemical weapons were reportedly used in the seven-year old Syria civil war and there is evidence indicating that the Assad regime had used chemical weapons on civilians in the past. Neither was the use of chemical weapons confined to the Syrian conflict. The self-styled Islamic State (IS) was known to have used chemical weapons and chemical attacks on civilians were believed to have occurred in Malaysia and the UK more recently. As chemical attacks on civilians become more regular, there is a pressing need to stop the production and use of chemical weapons, not least because of their potential to inflict mass casualty. But doing so is easier said than done for several reasons.

Recent Chemical Attacks

In the last five years, the world has seen a spate of chemical attacks on civilians. Considered taboo, chemical attacks are widely condemned for their indiscriminant and

insidious nature. The use of chemical weapons is also a war crime under international laws with victims dying a painful and horrific death. But that has not stopped rogue states and terrorist groups alike from developing and using these prohibited weapons on enemies or to terrorize civilians.

Before the alleged attack on Douma, the Assad regime had deployed sarin gas – a deadly chemical weapon – in 2013 on Ghouta, a rebel-controlled suburb of Damascus, killing hundreds of civilians as a result. Likewise, IS resorted to the use of mustard gas, another chemical weapon, in 2017 on Iraqi soldiers advancing on its stronghold of Mosul. The use of a chemical weapon in this case was significant because it demonstrated that the jihadist group was not only capable of developing chemical weapons but also prepared to use them.

Crucially, the use of chemical weapons has not been confined to active war zones. In April last year, Kim Jong Nam, the half-brother of North Korea's leader Kim Jong Un, [died](#) after allegedly being poisoned by two women with the deadly chemical agent, VX, in Malaysia. Then just last month in the UK, Sergei Skripal, an ex-Russian intelligence officer and his daughter were struck down by an extremely lethal chemical weapon called Novichok nerve agent. Significantly, the two incidents showed that chemical weapons could be used against civilians far away from conflict areas.

Taxonomy of Chemical Weapons

Chemical weapons are classified into choking, blister, blood and nerve agents.

Choking agents kill by shutting down the respiratory system. Chlorine and phosgene are examples with victims literally drowning from the fluid buildup in their lungs after inhaling these toxic gases. In the recent chemical attack on Douma, chlorine was reportedly used. In contrast, blister agents kill by causing severe burns on victims. An infamous blister agent is mustard gas, having been widely used during World War I and more recently by IS in Iraq.

Thirdly, blood agents kill by inhibiting the blood cells' ability to carry oxygen. Simply put, a blood agent like arsine would cause victims to literally die from suffocation. Undoubtedly, the deadliest of all are nerve agents like VX, sarin and Novichok. These extremely lethal chemicals kill by attacking the nervous system and destroying the brain's ability to control essential organ functions. Exposure to tiny amounts of nerve agents leads to paralysis of the heart and death follows within minutes.

Root of the Problem

The most widely-accepted international treaty that seeks to put an end to the production and use of chemical weapons is the Chemical Weapons Convention (CWC) and the international body tasked with implementing the CWC is known as the Organisation for the Prohibition of Chemical Weapons or OPCW. The CWC became effective in 1997 and today, 192 states, including Syria, are parties to it.

The alleged chemical attack by the Assad regime on Douma exposed a major flaw of the CWC. By right, Syria should have destroyed its chemical weapons stockpile after becoming a signatory to the CWC in 2013. The attack on Douma showed otherwise.

The problem lies in the fact that the CWC, like many international treaties, is unable to punish those countries that violated its provisions because its implementer, the OPCW, has very limited power.

Enforcement of the CWC often falls on major powers like the US, Britain and France, which recently took military actions against Syria for the alleged chemical attack on Douma. But such punitive military actions are often limited due to concerns over possible escalation. In the case of Syria, for example, further attacks by Western powers could draw in Syrian allies like Russia and Iran and in the worst-case, trigger a major conflict. Obviously, few countries have the gumption for that.

Sisyphean Endeavour?

Thirdly, efforts to end the production and use of chemical weapons are hampered by the fact that some of them also have peaceful and commercial uses. The choking agent, chlorine for example, is widely used in water purification. Chlorine is easy to produce, and any country can stock it.

Similarly, phosgene is used for manufacturing plastics and not difficult to synthesise. Hence, the production of chemical weapons like chlorine and phosgene can only be stopped by restricting their legitimate uses – something that is unlikely to happen without exacting a hefty price on economic development and public health.

In sum, eradicating all chemical weapons remains a Sisyphean endeavour. But if there is a silver lining to the recent spate of chemical attacks, it is that there is greater awareness of the threat posed by chemical weapons – not just to those in conflict zones but everyone. And this should only strengthen the resolve to bring about a world free of chemical weapons.

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