

## The current cholera menace amid the war crisis in Syria and the economic crisis in Lebanon: A time for global solidarity

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Dear Editor,

It has been more than a decade since the beginning of the ongoing armed conflict in Syria which killed around 307,000 civilians in the period from March 2011 to March 2021 according to a recently released report from the UN rights office. Also, the Syrian war is considered the world's largest crisis in terms of displacement and migration [1]. As of 2021, around 13.7 million individuals were forced to change their residence in response to the war crisis, of whom 6.8 million fled the country as refugees and asylum seekers, while around 6.9 million people were internally displaced within the country [1]. The brutal violence linked to the war crisis has imposed severe negative impacts on the physical, mental, and socioeconomic pillars of the Syrian community. This war has forced the Syrians to live in catastrophic conditions, as approximately more than half of the population suffer from extreme poverty, and many other hardships brought by the lethal consequences of the war. Additionally, the war and its violence, collapsed infrastructure,

and distress have afflicted Syrian children, forcing them to experience various diseases and malnutrition, child labour and abuse, as well as a lack of educational opportunities [1].

Amidst the war crisis, the health authority in Syria declared a Cholera outbreak on 10 September 2022 across many governorates in the country, with more than 10000 suspected cases. Although the epidemiological zones of the initial outbreak are concentrated in the northern governorates (Deir-ez-Zor, Aleppo, Ar-Raqqa, and Al-Hasakeh), cholera is rapidly spreading to many other governorates due to the crisis affecting water and sanitation infrastructure as a result of the war, forcing people to rely on unsafe water sources. The current outbreak is mostly linked to drinking water from unsafe sources (Euphrates River), and crop irrigation with contaminated water [2].

According to the early warning and alert response network (EWARN) system, which was developed by the World Health Organization (WHO) for timely detection and response to disease outbreaks during crisis [3], there were more than 35,000 suspected cases of cholera reported across Syria, with a death toll that reached 92 in the period from 25 August to 9 November 2022 [4]. On 22 October 2022, the Syrian Ministry of Health reported a total of 942 and 44 confirmed cases and deaths, respectively, due to the current cholera outbreak in the country [4]. As the current cholera situation threatens many lives in Syria, it is also considered a public health threat to Syria's neighboring countries. Consequently, on 5 October 2022, a cholera outbreak was also declared in north Lebanon following the confirmation of the first case in the country, after around 29 years of a cholera-free history of Lebanon. Surveillance and investigations are currently undergoing for many suspected cases as well. As of 17 November 2022, a total of 569 confirmed cases, 20 deaths, and more than 3000 suspected cases were reported in Lebanon due to the current outbreak [4]. So far, and by age groups, the most affected population is children of  $\leq 4$  years old, while adults of 25-44 years old are the second most affected population in Lebanon according to recent statistics revealed by the ministry of public health in the country [4].

Considering the current cholera epidemic in both countries, solidarity in the public health response is required. Syria suffers from severe destruction in the national water infrastructure due to the war crisis and its impacts. The country also has a fragile health system that was impacted by the war too. Similarly, the situation is not promising in Lebanon, as the country's healthcare system and water infrastructure were also severely afflicted by the country's fragile economy and recent financial crisis. On top of that, various challenges may be faced in infectious disease outbreak response in crisis times, and conflict

zones (e.g., war crisis, financial crisis). Weak surveillance and reporting systems impose additional risks to successful epidemic control, considering that the Syrian government's surveillance system was previously reported to be inadequate, and suffers from under-reporting issues [5]. Therefore, the global community has a pivotal role in mitigating the cholera situation in both countries. Humanitarian agencies with local partners and cross-border collaboration are called to support the healthcare and water sanitation systems in Syria and Lebanon. A proper, and robust water, sanitation, and hygiene (WASH) response must be implemented with inter-agency and multisectoral coordination. The world should stand in solidarity to support Syria and Lebanon in controlling the cholera situation through various humanitarian agencies that can help in providing the needed medical and laboratory supplies (including cholera vaccines), scaling up the protection of vulnerable people through water sanitation, and strengthening both countries' capacity to respond to potential health hazards.

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