Resurgence of cholera in Lebanon

Zeina Bayram[1], Abdul Rahman Bizri[2] and Umayya Musharrafieh[2,3]

[1]American University of Beirut, Beirut, Lebanon. [2]Department of Internal Medicine, Division of Infectious Diseases, American University of Beirut Medical Center, Beirut, Lebanon. [3]Department of Family Medicine, American University of Beirut Medical Center, Beirut, Lebanon (Correspondence to Umayya Musharrafieh: umo0@aub.edu.lb).

Keywords: cholera, public health, infection prevention, Lebanon

Citation: Bayram Z, Bizri A, Musharrafieh U. Resurgence of cholera in Lebanon. East Mediterr Health J. 2023;29(11):837–838. https://doi.org/10.26719/emhj.23.111

Received: 19/12/22; Accepted: 28/04/23

On 5 October 2022, following a cholera outbreak in Syria on 10 September 2022, there was a resurgence of cholera in Lebanon after nearly 30 years of its absence. The first case was reported in the northern region of Akkar and in a Syrian refugee *(1)*. There was panic when the outbreak in Syria was announced, mainly because of the porous borders between Syria and Lebanon and the mobility of the Syrian refugees between the 2 countries. Despite this, no measures were adopted to prevent cross-border transmission. Consequently, the disease spread rapidly between the 2 countries in a very short time, placing Lebanon on the brink of a new catastrophe *(2)*.

The number of cholera cases in Lebanon increased at an exponential rate. As of 1 June 2023, a total of 671 confirmed and 7993 suspected cases had been reported. The confirmed cases were of *Vibrio cholerae* O1 El-Tor Ogawa, confirmed by culture *(3)*. One death was reported in Lebanon on 12 October 2022, 1 week after the start of the outbreak. By 14 March, the number of deaths had increased to 23. Surveillance data from the Lebanese Ministry of Public Health (LMoPH) showed that the number of suspected and confirmed cases was highest among children aged 0–4 years (31%), followed by children aged 5–14 years (23%), and adults aged 25–44 (18%). Eighteen percent of the confirmed cases required hospital admission and 47% were males while 53% were females.

Vibrio cholerae was found in potable water sources, irrigation channels and sewage. The first infection was reported in Minieh-Dannieh District, from where it spread to nearby northern regions with a significant increase in the number of cases in nearby Akkar and Baalbeck districts. The infection spread to other locations in Beirut and Mount Lebanon *(1)*. Few laboratories were designated and approved by LMoPH for the diagnosis and detection of cases and 9 referral hospitals were appointed as treatment centres *(4)*. Cholera vaccination campaigns were launched on 12 November 2022, following which case report started to decline in December 2022. However, despite this decrease, the LMoPH said the cholera outbreak was not yet over.

Lebanon is currently experiencing a combination of other crises, including its worst economic depression, which has made the country to be labelled a low-middle-income country *(5)*. The healthcare system in Lebanon is struggling with drastic shortages of healthcare professionals and medical utilities. The inflation, along with the power and water cuts, has rendered health institutions severely fragile. The healthcare system is still unsettled and has not recovered from the impact of the COVID-19 pandemic.

Several factors were expected to accelerate transmission and increase the impact of the outbreak. Lebanon hosts the largest number of refugees per capita in the world, mostly Syrian refugees. The Syrian refugees are a mobile population with tendency to move between their country of origin and country of residence. Conflicts and human migration are major contributors to the spread of infectious diseases such as cholera *(6)*. Displacement can cause morbidities, and the rising cholera cases are just a tip of the iceberg.

Cholera is transmitted through contaminated drinking water and food, and the water supply infrastructure in Lebanon is poor. The UNICEF representative in Lebanon had indicated in a statement that millions of people in Lebanon are affected by the limited availability of clean and safe water (8) Refugee camps and temporary settlements are typical areas at risk of poor water quality and sanitation and, therefore, linked to high cholera transmission rates. Poor water infrastructure also affects households, schools, hospitals, and healthcare centres, thus aggravating the already existing humanitarian crisis in Lebanon *(7)*.

The recent cholera outbreak is a manifestation of the weak political and healthcare systems in Lebanon. Lebanon has become vulnerable to preventable infectious diseases that the nation had not experienced in the past. Despite the threats to the health system and the health of populations living in Lebanon, no significant action is being taken to remedy the situation, especially considering the high inflation rate, shortage of funds, and the dwindling international aid.

Despite the very short period of exposure, the threat imposed by this outbreak in Lebanon is obvious. If no reasonable improvements are made to the political and financial sectors, solutions to the emerging health challenges seem far-fetched and Lebanon may be edging towards a devastating epidemic.

Funding: None.

Conflict of interest: None declared.

References

1. Health, L.M.o.P. Cholera Surveillance in Lebanon. 2022 March 15, 2023]; Available from: https://www.moph.gov.lb/en/Pages/127/64744/cholera-surveillance-in-lebanon.
2. reliefweb. Cholera Emergency Response in Syria and Lebanon. 2022 October 24, 2022]; Available from: https://reliefweb.int/report/syrian-arab-republic/cholera-emergency-response-syria-and-lebanon.
3. Organization, W.H. The global task force on cholera control. 2010; Available from: https://www.gtfcc.org/about-gtfcc/.
4. reliefweb. Disease Outbreak News: Cholera – Lebanon (19 October 2022). Available from: https://reliefweb.int/report/lebanon/disease-outbreak-news-cholera-lebanon-19-october-2022.
5. BANK, B. After Being an Upper-Middle Income Country for 25 years, Lebanon is now a Lower-Middle Income Country with a GNI Per-Capita of $3,450 in 2021. 2022; Available from: https://blog.blominvestbank.com/44410/wb-after-being-an-upper-middle-income-country-for-25-years-lebanon-is-now-a-lower-middle-income-country-with-a-gni-per-capita-of-3450-in-2021/.
6. Bizri, A.R., et al., COVID-19 pandemic: an insult over injury for Lebanon. Journal of Community Health, 2021. 46(3): p. 487-493.
7. Mari, L., et al. On the role of human mobility in the spread of cholera epidemics: towards an epidemiological movement ecology. Ecohydrology 2012 [cited 5 5]; 531-540]. Available from: https://onlinelibrary.wiley.com/doi/full/10.1002/eco.262.
8. WHO. Water supply systems on the verge of collapse in Lebanon: over 71 per cent of people risk losing access to water. Available from: https://www.unicef.org/press-releases/water-supply-systems-verge-collapse-lebanon-over-71-cent-people-risk-losing-access#:~:text=%E2%80%9CAt%20the%20height%20of%20the,Lebanon%2C%20Yukie%20Mokuo%2C%20said.