



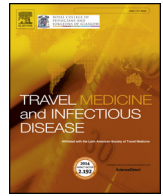
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# Travel Medicine and Infectious Disease

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## Refugees besieged: The lurking threat of COVID-19 in Syrian war refugee camps



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#### Dear Editor,

The Syrian civil war broke out on March 15th, 2011 and has been raging on incessantly, resulting in wide-spread violence, suffering and incalculable impacts on innocent citizens. A hallmark of this war is the displacement of millions of individuals internally in Syria and across borders to different hosting countries. Today, millions of Syrian war refugees are scattered across several countries and many live under unideal conditions. In many cases, the refugees, including children, elderly, and immunocompromised individuals, have comparatively limited access to extended medical help, clean water, and safe and nutritious food, resulting in a chronically stressed population that is prone to various communicable and non-communicable diseases. Amid these challenges and uncertainties, a new and frightening threat has emerged, namely the COVID-19 pandemic, which has rapidly spread across the globe causing severe morbidity and mortality (~1,484,811 cases and 88,538 deaths as of April 9th) [1]. The disease, caused by a new strain of human coronaviruses that was dubbed SARS-CoV-2, has strained the public health systems and economies of major world powers such as China and the USA. While there has not been reports of major outbreaks or cases in the camps so far, the main hosting countries have witnessed increasing number of infections and fatalities in their populations. For example, Turkey reported 38,226 cases and 812 deaths, while Lebanon and Jordan had 576 and 358 cases and 19 and 6 deaths, respectively, as of April 9th [1]. This perhaps casts shadows of doubt on the absence of outbreaks or cases in the camps. Indeed, there are suggestions that the refugees might not be reporting infections due to 1) lack of knowledge in regards to infection and symptoms, 2) lack of access to tests, which are already limited and insufficient for the needs of the hosting communities, and 3) fear of stigma which might lead to increasing restrictions and crackdown on the refugees. COVID-19 has ignited fears in many communities and reactions to patients or potential carriers of the virus have not been always charitable. Furthermore, it is well known that certain hosting countries established curfews and implemented deportations of unregistered refugees even before the onset of the pandemic. Therefore, tackling the occurrence and spread of COVID-19 in the refugee camps appears to be complicated and fraught

with many challenges.

A quick assessment of the nature of the disease can reveal the potential scope of threat to the refugees. It is known that COVID-19 is mainly transmitted via the respiratory route (spreads directly via respiratory droplets, which is facilitated by close proximity), and that patients with comorbidities and those that are prone to recalcitrant and antibiotic-resistant secondary infections do not fair well comparatively. Additionally, the major current approaches to control the spread of COVID-19 in communities, include 1) social distancing, 2) close adherence to hygienic approaches (washing and disinfection), and 3) protective gear (such as masks and gloves), 4) frequent testing and quarantines, and 5) maintaining a good health. These measures in any community have proven difficult, but they might be even more challenging in Syrian refugee camps. Specifically, it is widely known that many refugee populations that witnessed catastrophic events might be immunosuppressed and can carry multidrug resistant pathogens [2], while the camps also host elderly refugees, which are particularly susceptible to COVID-19. Furthermore, populations of refugees live under crowded conditions in makeshift tents that provide little protection, while camps may share common services, which render distancing very difficult. Furthermore, the quality and availability of domestic water (including drinking water) in many camps are insufficient; with intermittent access, shortages and documented contamination with bacterial indicators of fecal pollution and multidrug resistant pathogens [3,4]. This obviously increases the risk of exposure to secondary infections and decreases the efficacy of hygienic practices that rely mainly on sufficient access to clean water, which becomes more problematic in scenarios that also include shared latrines and vulnerable camp water cisterns or wells. Additionally, shortages in and monopolization and soaring prices of protective gear, disinfectants, soap, virus tests and nutritious food mean that these items will be even more scarcely available for the refugees, which will adversely impact the maintenance of a good health.

The situation is layered further with more complications and challenges. For example, Lebanon, a country that hosts an estimated 1.5 million Syrian refugees (distributed in makeshift camps and other dwellings) is currently facing a very severe economic crisis, civil unrest,

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and a COVID-19 outbreak. Lebanon is currently under a curfew in order to control the disease, and prices of food and medicine are soaring in a country that relies heavily on imports to meet its needs. The latter is becoming more difficult under restrictions imposed by the economic crisis as well as the spread of the disease. Consequently, allocating resources and much needed help to the refugees might be unavailable or scarce at best. While the UN Refugee Agency (UNHCR) and other NGOs are attempting to provide support and awareness to the refugees, the reality is that significant funding is required; given the various needs and the high number of refugees. In that regard, the UNCHR has appealed for urgent funding to combat COVID-19 in refugee camps, but the results of this initiative remain to be seen [5]. In contrast, there are anecdotal reports of fears that foreign aid might decrease or withdraw from the camps due to the pandemic. The latter would have severe consequences, especially in case of an outbreak, which will leave the refugees besieged in their camps while facing a dire threat.

During these unprecedented times, we call for global and urgent support for these disenfranchised populations. The health of refugees is intimately linked to that of their hosting communities and beyond, which is an additional reason to protect the camps from COVID-19. Consequently, an uncontrolled outbreak would result in significant morbidity and mortality that might not be confined to the camps. Therefore, transparent and thorough investigations along with pre-emptive and inclusive control measures are urgently required to prevent and/or control the dissemination of COVID-19 in Syrian and other refugee camps worldwide.

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#### Ethical approval

None was required.

#### Declaration of competing interest

The author declares no conflict of interest.

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