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Addressing Influenza Vaccination in MENA Region during the COVID-19 Pandemic: Decreasing the Effects of the Collision

Salah T. Al Awaidy[1,3]*, Oğuz Abdullah Uyaroğlu[2], Chadia Wannous[4] and Mine Durusu Tanriover[2,3]

[1]Office of Health Affairs, Ministry of Health, Muscat, Oman
[2]Department of Internal Medicine, Division of General Internal Medicine, Hacettepe University Faculty of Medicine, Ankara, Turkey
[3]Middle East, Eurasia and African Influenza Stakeholders Network, Johannesburg, South Africa
[4]Future Earth Health Knowledge Action Network, Stockholm, Sweden

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The Northern Hemisphere,[a] including the Middle East and North Africa (MENA) region, is anxiously waiting for the influenza season as it is expected to coincide with the second peak or wave of the novel coronavirus disease 2019 (COVID-19) pandemic causing fear of a 'twindemic', where two epidemics happen at the same time.[1] Influenza cases abruptly declined as a result of the COVID-19 mitigation measures, such as hand hygiene, mask-wearing, and social distancing, as well as missed diagnoses due to sick people avoiding healthcare institutions early in the spring.[1] Yet, the world should be prepared for the worst as we are not certain if preventive measures to mitigate COVID-19 transmission can lead to a low upcoming season for influenza in the Northern Hemisphere as has been evident in the Southern Hemisphere during June–August 2020[1] or it may lead to viral interference resulting in different peaks of the infection.[2]

Burden of influenza and COVID-19 in MENA region

Seasonal influenza is one of the major etiologies of lower respiratory tract infections (LRTIs) and the third common cause of death in all age groups, affecting 5–10% of the world population each year, resulting in between 250 000–500 000 deaths.[3,4] The Global Burden of Disease Study has indicated that influenza is a significant reason for hospitalization and the estimated mortality rate due to LRTIs is 0.9 per 100 000 population in the MENA region.[5] Influenza is obviously a substantial public health problem with direct and indirect economic consequences[6–8] and the most effective way to prevent the disease and untoward outcomes is vaccination. However, the vaccination coverage rate remains low in the MENA region.[9–11]

All countries in the MENA region have reported COVID-19 cases starting from early February 2020. By 18 October 2020, countries in the MENA region reported 2 764 180 confirmed cases and 70 258 deaths.[12] However, these numbers are likely to be underestimated due to testing policies, which currently stands at 5723 tests per 100 000 population, early introduction of control and lockdown measures, and young demographic population. The attack rate is 378 per 100 000 population, and the case fatality rate is estimated at 2.5%.[12] The Global Health Security Index of vulnerability to biological threats shows significant differences in the level of preparedness across the region.[13] Weak health systems are exacerbated by low levels of public expenditures on health and high out-of-pocket spending, as well as a weak ability to grow overall health spending in the face of crises. Pandemic control measures have also impacted countries economically and socially and disrupted access to health care for other diseases and essential services, including vaccination.

Worst-case scenario: the collision of influenza and COVID-19

The collision of influenza and COVID-19 could have destructive outcomes at different dimensions if one

*Corresponding author: ✉salah.awaidy@gmail.com

of the viruses does not dominate the season. First, the effects of influenza, such as respiratory failure, decreased functional capacity, and concomitant cardiovascular complications will increase the risk of severe COVID-19 in an already high-risk population.[14] COVID-19 pandemic hits hard frail, elderly patients with chronic diseases and obese people who face the major threat of severe disease due to both seasonal influenza and COVID-19.[15,16] Additionally, children under five years of age are at high risk of severe influenza infection, and considering the MENA region contains the largest population of vulnerable children, the impacts of seasonal influenza would be expected to multiply in the shadow of the COVID-19 pandemic.[17]

Secondly, the collision is anticipated to devastate the already overwhelmed healthcare system and burned out healthcare staff. Hospital beds, which are to be used by patients with viral respiratory infections in the fall and winter are already occupied with COVID-19 patients. In addition, there will be problems in differentiating influenza from COVID-19 disease as symptoms largely overlap, and testing will be needed to confirm the pathogen. Patients with other respiratory viral infections who otherwise would not seek medical service will increase the burden of patients waiting to be tested for SARS-CoV-2. The diagnosis of influenza will be critical as there are effective therapies against influenza virus that might help reduce the burden of influenza, sparing the limited resources for the care of COVID-19 cases. It should also be kept in mind that co-infected cases of influenza and COVID-19 have been reported, confounding testing results, delaying treatment, and leading to severe conditions.[18]

The above-mentioned consequences should certainly be interpreted in the realities and social and economic vulnerabilities of the MENA region. The pandemic's collision with seasonal influenza will contribute to increased healthcare disparities, gender inequalities, poverty, unemployment, and conflicts in the region and lead to devastating and long-lasting consequences.[19]

Policy recommendation of influenza vaccination for resilient health systems

The severity of the collision will depend greatly on how well countries contain COVID-19 and have resilient health systems able to cope with the crisis. Wherever widespread COVID-19 transmission is going on, seasonal influenza will probably spread rapidly. Wherever COVID-19 cases have already stress health systems, the added burden of influenza will compound the crisis. From a risk management perspective, the COVID-19 pandemic can be an opportunity to increase the investments in the region to build resilient health systems, improve medical practice and enhance capacity development, and training for infectious disease prevention and response.

To reduce the risk of a devastating combined season of COVID-19 and influenza overwhelming the health system's capacity, and in the absence of a safe, reliable, and widely available coronavirus vaccine, countries should launch universal influenza vaccination programs. As a part of pandemic influenza preparedness efforts, and to reduce the chances of getting infected with both viruses, countries should facilitate vaccine distribution and implementation mechanisms necessary for efficient and timely administration of influenza vaccines, especially for high-risk groups. In this regard, we recommend for the prevention and control of seasonal influenza during the 2020–2021 season in the MENA region the following measures, based on national policies and the influenza and COVID-19 epidemiological situation.

- To increase the number of individuals who get the influenza vaccine, especially high-risk groups (healthcare workers and older adults, followed by pregnant women, people with chronic diseases or who are obese, and children aged six months to two years old).[20]
- To reinforce infectious diease control measures such as hand washing, wearing masks, social distancing, and reducing the number and size of large gatherings.
- To adhere to school and travel mitigation policies.
- To assess the potential hesitancy and associated factors towards influenza vaccination to develop targeted interventions to increase confidence and uptake of the vaccines.
- To consider the timing and availability of vaccines, on-site vaccination for healthcare workers and other high-risk groups, and develop tailored approaches for the various parts of the community.
- To extend the duration of vaccination campaigns to accommodate lockdown and social distancing strategies to slow the spread of COVID-19.

- To consider and strengthen efforts for sustainable supply or production of influenza vaccines.

Influenza vaccine is an irreplaceable public health measure that can help decrease the consequences of the impact of the pandemic by preventing influenza infection and related severe diseases that might be confused with those of COVID-19, and reducing their severity requiring hospital and intensive care unit admission.

The MENA region is the home of the wealthiest and the poorest countries at the same time, where extreme poverty has constantly been increasing since 2011.[21] In this context, cost-conscious preventive measures, particularly in the time of a pandemic, become so important to limit the burden of vaccine-preventable diseases and improve the health and wellbeing of the people in the region.

[a]The Northern Hemisphere is the part of the planet that is north of the equator. It has about 90% of world's population and most of the world's land. All of North America and Europe are in the Northern Hemisphere. Most of Asia, two-thirds of Africa, and 10% of South America are also in this hemisphere. (https://simple.wikipedia.org/wiki/Northern_Hemisphere).

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