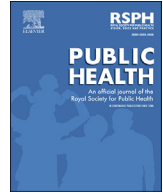




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## Letter to the Editor

## Drought and COVID-19 in the Eastern Mediterranean Region of the WHO



The year 2020 marks ten years since the United Nations General Assembly and Human Rights Council recognized access to safe drinking water and sanitation as a human right.<sup>1</sup> Yet, for around 2.5 billion of the global population, corresponding to around one-third of humanity, access to safe drinking water remains a luxury.<sup>2</sup>

Around three-quarters of the surface of the World Health Organization (WHO) Eastern Mediterranean Region (EMR), which includes 22 countries (15 in Africa and 7 in Asia), consists of desert, and drought represents a common phenomenon.<sup>3</sup> Specifically, the drought that lingered between 1998 and 2012 was likely the worst of the past nine centuries for countries such as Jordan, Lebanon, Palestine, and Syria.<sup>4</sup> On the other hand, the Horn of Africa has been affected by prolonged drought in 2016 and 2017.<sup>4</sup> Similarly, large-scale drought conditions erupted in selected and contiguous provinces of Afghanistan and Pakistan during the last trimester of 2018.<sup>4</sup>

The Integrated Vulnerability assessment of the Regional Initiative for the Assessment of Climate Change Impacts on Water Resources and Socio-Economic Vulnerability in the Arab Region clearly showed how vulnerability hotspots for drought generally recur in the Sahel extending northward into the Sahara Desert, the south-western Arabian Peninsula, and the Horn of Africa, particularly for the high exposure to larger increase in temperature and declining precipitation.<sup>5</sup>

Reduced water availability is a defining feature of most drought. As water levels are typically low, this may lead to both reduced dilution capacity and to contamination of the few remaining sources. This leads to increased likelihood for outbreaks of infectious disease (e.g. cholera) when more users are there for a water source.<sup>6</sup> This adds to nutrition-related morbidity and mortality that are the best recognized health impact of drought.<sup>7</sup> In addition, as soils become increasingly dry during a drought, dust circulated in the air is more likely. Dust, in its turn, can be harmful via two mechanisms: pathogen carriage and direct trauma from inhaled particulates.<sup>7</sup>

International organizations such as the WHO and United Nations Children's Fund (UNICEF) are emphasizing the role of washing hands as critical infection and prevention control practice to minimize the risk of being infected by the current coronavirus disease-2019 (COVID-19) pandemic, especially after visiting a public space, touching surfaces outside the home, as well as after coughing, sneezing, or blowing your nose. A single 20-s washing and rinsing uses at least two liters of water, which for a family of four washing

10 times a day each corresponds to 80 litres (the average American uses between around 380 and 660 litres of water daily).<sup>8</sup>

As far as the Water, Sanitation and Hygiene services are concerned, the WHO EMR region has an alarming situation in accordance with the WHO-UNICEF Joint Monitoring Program: more than one-fourth of the region population (175 million people) remains without basic sanitation services.<sup>9</sup> Recent evidence on COVID-19 detected in wastewater and sewage puts local populations even at higher risk,<sup>10</sup> especially rural residents, which lacks of basic hygiene services in large proportions.<sup>9</sup> In addition, to note how the environmental context in WHO EMR may play a conducive role in the circulation and spread of the disease as for the MERS-CoV experience in Saudi Arabia.<sup>11</sup>

It is important to emphasize how a considerable proportion of the WHO EMR territories are characterized by concurrent emergencies such as conflicts, political instability, and financial crises, which may hinder the development and implementation of operational plans to face the COVID-19 health emergency.

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S. Bellizzi\*

*Independent Medical Epidemiologist, Geneva, Switzerland*

C.M. Panu Napodano

*Infectious Diseases Department, AOU Sassari, University of Sassari,  
07100, Sassari, Italy*

M. Fiamma

*Polo Ospedaliero San Francesco, ASSLL, Nuoro, Italy*

O. Ali Maher

*Division of Water Resources Engineering, Lund University, Lund,  
Sweden*

\* Corresponding author.

E-mail address: [Saverio.bellizzi@gmail.com](mailto:Saverio.bellizzi@gmail.com) (S. Bellizzi).

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