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Cholera epidemic in Yemen

Anton Camacho and colleagues[1] have reported data from the first two waves of the ongoing cholera epidemic in Yemen. They demonstrated that the small first wave in 2016 was followed by a much larger wave in 2017. Moreover, they showed a positive association between weekly rainfall and cholera incidence during the second wave, and published their concern that there might be another large wave associated with the 2018 rainy season.

However, we are not convinced by the hypothesis that rainfall is the major risk factor for this large cholera outbreak. Firstly, the initial wave occurred in winter 2016, and the second in summer 2017, with obviously very different weather conditions. Secondly, rainfall is generally low but very variable in Yemen, ranging from only 50 mm in the coastal and desert areas to 800 mm in the Western Highlands; and in many parts of the country there are no clearly defined rainy seasons and often no rain at all.[2,3] Thirdly, the accurateness of rainfall estimates by the Climate Hazards Group Infrared Precipitation with Stations data is questionable, in particular in rural areas where over 70% of Yemenis live.[4] Finally, and as shown by the authors themselves, there was no clear association between cholera attack rates and rainfall pattern in governorates; while attack rates were high in coastal governorates with very little rainfall, they were low in more distant governorates located in the desert.[1]

What exactly drives this cholera epidemic in Yemen is unclear. There have been several cholera outbreaks in recent years, with the current one being the largest nationally and globally.[5] Cholera incidence can be high during rainy periods because of contamination of water supplies, but can also be high during dry periods because of people being more dependent on unsafe water sources—the latter scenario probably being more likely under the prevailing conditions of drought and conflict in the country. As we had shown before,[5] the epidemic is associated with the ongoing war and civil war, which has led to massive population movements, an intensified shortage of water resources and related hygiene problems, and disruption of services including health services. Destruction of water reservoirs has even been used as a weapon during the conflict.[3] It is now estimated that almost two-thirds of the Yemenis population have no access to clean water supply and sanitation.[3]

Yemen urgently needs more efforts to establish comprehensive interventions to guarantee access to safe water and sanitation, probably supported by mass vaccination campaigns to avoid potential further large waves of the epidemic.

We declare no competing interests.

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