

Warning against monsoon infections: A burden on healthcare in PakistanFatima Mansoor¹, Arisha², Erum Khan³

Dear Editor, Pakistan experienced its annual monsoon, putting the entire nation under a relentless rain. After moderate to severe rain battered Karachi and Hyderabad, surpassing 30-year records, the Government of Sindh proclaimed July 25 as a public holiday.¹ The season is favourable to endemic diseases. Dengue's most recent major outbreak in 2019 resulted in 53,498 cases and 95 fatalities.² The National IHR Focal Point of Pakistan reported a laboratory-confirmed cholera outbreak in Sindh province in April 2022. As of May 2022, 290 cholera cases were reported.³ Karachi also reported 864 new typhoid cases merely between June and August 2021.⁴

We highlight the risk of repeated outbreaks superimposed on endemic diseases as urban flooding, is a reservoir for infections and stagnant water expands the dengue vector's habitat. Food and water contaminated by poor sewage and waste disposal, in addition to overcrowding brought on by infrastructure loss, spread *Vibrio cholera*, *Salmonella typhi*, and paratyphi. This can threaten the country's already exhausted healthcare system, attributable to inflation and COVID-19 pandemic. The duration of infection is a major predictor, with the rising number of infected, we dread that the hospitals will be unable to provide prompt medical care due to worsening shortage of medicine, staff, and inadequate laboratory diagnostics, manifesting the risk of severe complications including dengue shock syndrome, dengue haemorrhagic fever along with intestinal bleeding and perforation for typhoid, acute renal failure and stroke associated with cholera.⁵ Co-infection is another grave consequence, it can exacerbate antibiotic resistance and immune-compression.

Recurrent viral infections can create a stressful environment, from adversely impacting the lifestyle of people to causing economic damage to the country. It is

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an alarming situation for the future. Immediate initiative to raise hygiene awareness through campaigns and social media is recommended such as handwashing, avoiding raw food and unpasteurized milk. Insect repellents should be utilized and the storage of rainwater must be avoided. It is necessary for the government to implement early laboratory detection, water quality monitoring, sanitation policies, and vector control to respond effectively to monsoon outbreaks. Moreover, typhoid and cholera immunization programmes should be made readily available at a low cost to combat a greater risk.⁵

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