Yemen Journal of Medicine

https://yemenjmed.com

Article information

DOI: 10.63475/yjm.v4i3.0248

Article history:
Received: 19 December 2025
Accepted: 22 December 2025
Published: 31 December 2025

Correspondence to:
Manosha Lakmali Perera
Email: manosha_lakmali@yahoo.com
ORCID: 0000-0001-7275-2736

How to cite this article
Perera ML, Perera IR. Sri Lanka is at risk of post-flood communicable disease outbreaks. Yemen J Med.2025;4(3): 653-654.

Letter to the Editor

Sri Lanka Is at Risk of Post-Flood Communicable Disease Outbreaks

Manosha Lakmali Perera[1], Irosha Rukmali Perera[2]

1 Microbiologist, Alumni, School of Dentistry and Oral Health, Griffith University, Queensland, Australia
2 Dentist, Preventive Oral Health Unit, The National Dental Hospital (Teaching), Colombo, Sri Lanka

To the editor,

Human-induced climate change has led to rising sea levels and a surge in severe weather events, such as heat waves, droughts, wildfires, and unpredictable fluctuations in heavy precipitation, which can lead to flooding. [1] Floods have a major impact across regions globally. About 1.8 billion people (23% of the global population) are exposed to 1-in-100-year floods, with the greatest risks concentrated in low- and middle-income countries, especially South and East Asia. [1]

Sri Lanka has experienced torrential rainfall, severe flooding, and landslides as the northeast monsoon was further aggravated by Cyclonic Storm Ditwah, which made landfall on the island's eastern coast early morning on November 28, 2025. Cyclone Ditwah has triggered a nationwide emergency in Sri Lanka, causing more than 1.4 million people from over 407,594 families across all 25 districts as of 10.00 AM on December 02, 2025. The cyclone resulted in 410 confirmed deaths, with 336 people still missing. Nearly 233,000 people have been displaced into almost 1441 active shelters as homes and community infrastructure sustained severe damage. More than 565 houses have been fully destroyed, and over 20,271 have been partially damaged. [2] Consequently, the Socialist Democratic Republic of Sri Lanka faces a heightened risk of post flood-disease outbreaks.

The communicable diseases most commonly reported after natural disasters, such as floods, result from various factors that occur abruptly and place especially vulnerable groups at risk, including pediatric patients. [3] Several risk factors have been associated with disease outbreaks following disasters: overcrowding, food insecurity, lack of clean water, poor sanitation, alteration in vectors' distribution, housing and shelter issues, limited access to healthcare services, population displacement, disruptions in basic infrastructure and transportation networks. [4]

In a systematic scoping review for incidence, risk factors, and recommendations on communicable disease outbreaks after natural disasters, diarrhea has been mentioned as the most common epidemic after floods in 14 articles, [5] followed by leptospirosis and malaria. [4] Moreover, higher prevalence of diarrheal diseases has been reported in men, except for one study where the incidence of cholera was 10% higher in women. [5] Dysentery and cholera accounted for the highest frequency of diarrheal and food-borne diseases. Also, a higher ratio of patients suffering from dysentery, acute and bacterial diarrhea was reported (odds ratio [OR], 1.17–6.74 [95% CI: (1.03–1.33)–(1.95–23.34)]) compared to the healthy people with a confidence interval of 95%. [5]

Improper water reservoir (OR, 3.68 [95% CI, 2.16–6.27]), low economic status (OR, 2.73 [95% CI, 1.54–4.82]), aged younger than 7 years (OR, 2.0 [95% CI, 1.12–3.54]), and

being old (OR, 1.87 [95% CI, 1.06–3.30]) were the causes for more diarrheal infection in the affected people. [5] One study revealed the relative risk of dysentery and typhoid fever as 1.29 (95% CI, 1.15–1.46) and 1.21 (95% CI, 1.17–1.26), respectively. The relative risk in 0 to 4-year-old children was 1.37 (95% CI, 1.24–1.52) times higher compared to the other ages, in men was 1.08 (95% CI, 1.01–1.14) times higher, and in farmers was 0.89 (95% CI, 0.82–0.97) times higher than the other people who did not face floods. [5]

Outbreaks of leptospirosis have been reported by eight studies. [5] Common causes of leptospirosis are exposure to floods, swallowing contaminated water, and direct contact with water in the presence of wounds in the body, as well as contact with animals or their wastes. [5]

The outbreak of malaria has been investigated in seven articles. The highest rate of patients was under 15 years old and mostly contaminated with *Plasmodium vivax* species. The possibility of infection in the affected group was more (OR, 3.67 [95% CI, 1.77–7.61]) than in unaffected people. [5]

Except for the aforementioned three common epidemics, some other outbreaks were also reported: (a) respiratory tract infection, (b) Typhoid fever in general was 1.46 times higher (95% CI, 1.10–1.92) in the afflicted population. [5] It was significantly more prevalent in men (OR, 1.61 [95% CI, 1.18–2.22]), 0 to 4-year-old children (OR, 2.39 [95% CI, 1.02–5.60]), individuals aged between 15 and 64 years old (OR, 1.57 [95% CI, 1.17–2.11]), and farmers (OR, 1.57 [95% CI, 1.12–2.20]), (c) skin infection, (d) Japanese encephalitis cases that significantly elevated from the day 23rd (OR, 2.00 [95% CI, 1.14–3.52]) after facing the floods, (e) higher infection risk of hepatitis type A (OR, 6.11 [95% CI, 1.04–35.84]), and Hepatitis E, (f) eye infections like hemorrhagic conjunctivitis (OR, 2.00 [95% CI, 1.14–3.52]), (g) ear infection, and (h) Rift Valley fever. [5] In addition, mosquito-borne diseases such as dengue, chikungunya, Zika, and soil saprophytic bacterial disease named melioidosis are considered flood-associated communicable diseases. The possibility of foodborne diseases due to time and temperature abuse in mass-scale food production to feed the flood victims in flood relief camps cannot be undermined. [6–8]

In conclusion, the risk of outbreaks of communicable disease is an expected aftereffect of floods that should be considered by policymakers and disaster risk managers. Educating the general public on disease prevention after floods is of utmost importance. Stay out of flood water as much as possible, thorough wound care, protecting skin with boots and gloves, drinking boiled/treated/bottled water, washing hands especially before preparing or eating food, after contact with flood water/soil/ mud, and after using toilets are simple measures that may protect from many flood-associated communicable disease outbreaks.

AUTHORS' CONTRIBUTION

All authors contributed to the completion of this work. The final manuscript was read and approved by all authors.

SOURCE OF FUNDING

None.

CONFLICT OF INTEREST

None.

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