Climate Change and Emerging Infectious Diseases: A Growing Global Health Threat

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Dear Editor,

We are writing to highlight the link between the climate change and emerging infectious diseases in the world. Has their interplay become a global threat? We are all aware that climate change brings significant shift in disease patterns by bringing various changes in the environment such as rising temperature and humidity.[1,2] This creates optimal conditions not only for the growth of microorganisms, especially bacteria, but also the increase of vector borne diseases. In developing countries, this phenomenon has been commonly observed when the onset of monsoon causes the outbreak of diseases such as leptospirosis, dengue, malaria and chikungunya.[3,4]

A similar recent development can be seen in Queensland, Australia, following severe episodes of flooding. As of 25th March 2025, a total of 25 people has been reported to have died of melioidosis.[5] This infectious disease is caused by *Burkholderia pseudomallei* which is often found in the soil. The heavy rains and flood situation in Queensland has prompted the contamination of water resources with this soil bacteria, *B.pseudomallei* which can be transmitted by inhalation, ingestion or direct contact with contaminated water and soil. The bacteria are notorious for causing pneumonia, sepsis, skin sores and ulcer as well.[6] But the question arises- "Is the climate change solely responsible for this outbreak or are there some epidemiological factors responsible too?" One such reason can be increased number of elderly people with comorbidities such as type 2 diabetes mellitus or renal impairment residing in these areas. Besides, cleaning up activities can expose people to this soil bacteria in this flood situation.

The significant question is "How do we combat this disease and what can be done to prevent it?" One line of thought is the multidisciplinary approach to address the consequences due to change in climatic factors which should involve not only healthcare professionals but also environmental scientists, epidemiologists and policy makers. The focus should be on environmental surveillance such as strengthening early warning systems. In addition, a robust public health infrastructure, increased public awareness and encouraging community participation in climate adaptation efforts, can help people build adaptability against emerging infectious diseases.

Global health agencies must enhance their efforts to study climate-sensitive diseases and find practical solutions. Climate change isn't just an environmental concern anymore—it's a serious public health crisis that needs urgent attention. By understanding how climate shifts influence infectious diseases, we can take proactive steps to prevent future outbreaks and safeguard those most at risk.

Conflicts of interest

There are no conflicts of interest.

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