

Letter to the Editor

Dengue outbreak during Covid-19 pandemic: a further challenge to the health professionalsMiah MA^{1,2}*¹Dept. of Entomology, Patuakhali Science and Technology University, Bangladesh; ²Entomology Division, Anastasia Mosquito Control District, Florida, USA***Dear Editor,**

The coronavirus disease 2019 (Covid-19) has been caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) that declared as a global pandemic by the World Health Organization (WHO).^{1,2} This ongoing pandemic causes devastation across the world while multiple countries have been facing with another outbreak-Dengue, a known tropical disease.³ Dengue is the most rapidly spreading mosquito-borne viral infection, also considered as a major public health concern. During COVID-19 pandemic, the increasing incidence of dengue become a further threat especially in the dengue-endemic countries of Southeast Asia and Latin America.⁴ The global burden of dengue is dynamic, estimated 50 million real cases per year across approximately 100 countries.⁵ Currently, most of the countries are fighting against COVID-19, therefore, further outbreak of dengue has been posed a number of practical challenges to combat the diseases simultaneously.

As dengue cases have been increased during Covid-19 pandemic, both SARS-CoV-2 and dengue viruses are co-existing and co-circulating in the environment. Consequently, patients with SARS-CoV-2 and dengue co-infection has been reported recently in several countries like Singapore, Thailand, India, and Bangladesh.⁶⁻⁹ Hence, it is speculated that the co-infection cases will be increased and found in another countries in the upcoming days when dengue season goes in its peak. Currently, multiple countries in South America like Brazil, Paraguay, Colombia, Argentina, Bolivia are suffering seriously from co-epidemics of dengue and Covid-19.⁴

Besides, several Southeast Asian countries like Indonesia, Philippines, Malaysia are also suffering from the same co-epidemics.⁴ Therefore, there is a possibility to occur more co-infection especially in these countries where both dengue and Covid-19

patients are already been reported at an alarming level. Thus, coinfection of SARS-CoV-2 and dengue, their concurrent outbreak has been posed further challenge to the health professionals and added heavy burden on the health care system.

Coinfection of SARS-CoV-2 and dengue poses another challenge for accurate diagnosis and treatment of these viral diseases. The initial symptoms of co-infected patients such as fever, aches, and rash are seen to be similar; the distinction can be made as the disease progresses. Thus, it is difficult to distinguish between dengue and Covid-19 because they pose similar clinical and laboratory features.⁷ Further complications have been raised when SARS-CoV-2 infection gave false-positive results for dengue in the rapid serological tests.⁶ The patients being first incorrectly diagnosed with dengue who were later confirmed to be Covid-19. Thus, the new symptom of COVID-19 was discovered where the patient was suspected of suffering from dengue fever.¹⁰ Misdiagnosis of Covid-19 as dengue with failure to isolate such patients resulting in a delay in diagnosis of SARS-CoV-2 infection and further spread of the virus.⁶

Dengue is threatening during Covid-19 as a second outbreak. The combination of Covid-19 and dengue is assumed as dangerous for health care system.¹¹ In fact, coinfection may cause illness with overlapping signs and symptoms that make diagnosis and treatment difficult for health professionals and therefore, they should concern of possible co-infection of SARS-CoV-2 and dengue through appropriate clinical management. Besides, highly accurate, rapid, sensitive, and accessible diagnostic tests are strongly recommended for both of Covid-19 and dengue to avoid false-positive results.¹² Furthermore, continuous surveillance on Covid-19 and dengue patients either single or co-infected with clinical symptoms is also recommended for early and proper recognition of infecting pathogen. Altogether, dengue has been posed a further challenge to the health professionals that needs to pay more attention for proper case management.

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