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Editorial

Effects of Seasonal Climate Variation on Epidemiology of Dengue

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Dengue, an arthropod-borne infectious disease caused by dengue virus (DENV) infection and is transmitted by Aedes mosquitoes. Around 50 - 100 million persons are infected with DENV each year, contributing to high economic burden [1]. Before 1970, only 9 countries had experienced severe dengue epidemics, whereas in 2016, dengue had affected more than 100 countries [2]. DENV poses a major threat to global public health, and around 40 per cent of the world' s population is at risk of dengue infection [3]. Dengue has become a public health threat associated with remarkable morbidity and mortality since the first dengue outbreak was reported in 1779 in Jakarta, Indonesia [4]. In the region of the Americas, between epidemiology week 1 and 52 of 2018, a total of 560,586 cases of dengue were reported with incidence rate of 57.3 cases per 100,000 population, including 336 deaths. Of the total cases, 209,192 (37.3%) were laboratory-confirmed and 3,535 (0.63%) were classified as severe dengue. Cases reported in 2018 were higher than the total reported in 2017 but lower than the historical average reported in the previous 11 years (2006 - 2016) [5]. Currently, endemic dengue virus transmission is reported in the Southeast Asian, Eastern Mediterranean, Western Pacific, American, and African regions [6]. A recent study in China between 2014 and 2017 revealed that annual peak incidence of dengue occurred in autumn across the study region, most markedly in 2015 [7].

In conclusion, climate can influence dengue epidemiological characteristics. This understanding is useful for prevention and control of the disease for local governments around the world.

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