



Highlight of Diseases and Events in April 2018

Situation of Dengue Hemorrhagic Fever in Thailand

According to the national disease surveillance system (R506) reported to the Bureau of Epidemiology as of 1st May 2018, there were total 8,720 cases of dengue fever (DF), Dengue hemorrhagic fever (DHF) and dengue shock syndrome (DSS) in Thailand during 2018, with 1,184 new cases reported in the previous week and the attack rate of 13.25 per 100,000 population. The dengue cases in 2018 were reported lower than that of the same period of 2017 by 5.52%. Total 13 deaths were also reported and case fatality rate was 0.15%. Most cases were people aged 10-14 years and attack rate was 39.22 per 100,000 population, followed by 5-9 (29.99 per 100,000 population) and 15-24 (24.16 per 100,000 population) years. The infection occurred mainly among students (42.11%), followed by unknown occupation (23.33%) and labors (19.40%). There were 4,540 male and 4,180 female cases. Male to female ratio was 1:0.92. During 25 March to 21 April 2018, the attack rates of dengue cases per 100,000 population were peaked in 5 provinces, including Ranong, Phang Nga, Krabi, Phuket and Bangkok.

Dengue infection is caused by dengue virus, and is also known as dengue hemorrhagic fever (DHF), which is a burden in public health and medical care globally since patients can go into the shock state and die if correct diagnosis and proper medical care are not granted. In Asia, the first dengue outbreaks were recorded in Philippines during 1954 and in Thailand during 1958. The dengue transmission cycle in humans starts when the female mosquitoes bite the infected persons. Dengue virus comprises of four distinct serotypes (*DEN1*, *DEN2*, *DEN3*, *DEN4*) which are closely related (Gubler, D. J., 1998). Recovery from one type of infection provides lifelong immunity against that particular serotype, and cross-immunity to other serotypes may exist about 6-12 months or less. Thus, people living in the endemic areas pose a chance to get infected for 3-4 times. Secondary infections by other serotypes can increase the risk of developing into severe dengue as about 80-90% of DHF were reported to have repeated infections.

The prediction of diseases and public health events revealed that dengue infection would increase as it is still during the rainy season in Thailand. The rainfall can cause water collection in varieties of containers which can lead to potential mosquito breeding sites. Currently, the reported cases in April were higher than the median, and as high as 46% in April and 33% in May 2018. Hypothetically, about 10,000 cases per month are likely be detected from June to September 2018.

In response to this issue, various recommendations are made by the Department of Disease Control to enhance awareness about dengue and educate people about dengue prevention and control measures. To prevent the spread of dengue, every individual should eliminate all sources of standing water in and around their own houses, which can be potential mosquito breeding sites such as flower pots, gully traps, garden, discarded tyres and containers. In addition, people should strictly maintain household sanitation. Following these recommendations can prevent all three most important vector-borne diseases which are dengue, Zika and Chikungunya.

Information resource: Outbreak Verification Summary of 17th week during 30 April – 6 May 2018