

## PUBLIC HEALTH BURDEN CAUSED BY ZIKA VIRUS: NEED FOR A MULTI-PROFESSIONAL APPROACH

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Zika virus (ZIKV) belongs to the genus *Flavivirus* of the family *Flaviviridae*, and is transmitted to humans by the bite of infected *Aedes* mosquitoes. The virus was first isolated from a monkey in Uganda in 1947 while the first human case of virus infection was reported in Nigeria in 1947. Later, sporadic human cases have been reported in Asia. In 2007, an unprecedented ZIKV outbreak occurred in Yap Island, Micronesia. Subsequently, big epidemics were confirmed between 2013 and 2015 in French Polynesia, New Caledonia, Cook Island, Easter Island, America, and Brazil. It is still fresh to our mind that the PHEIC (Public Health Emergency of International Concern) was declared by WHO on 1 Feb 2016 during the period of unprecedented epidemic in Brazil and other countries in South and Central Americas.

The clinical symptoms of ZIKV infection such as fever, rash, headache, arthralgia, myalgia, conjunctivitis, and edema resemble those of dengue and chikungunya, however, approximately 80% of infected persons are asymptomatic. Although the disease is self-limiting, it poses a public health concern because ZIKV infection in early phase of pregnancy can cause congenital deformities, particularly microcephaly. Hence, ZIKV outbreak could be a serious public health concern.

In Asia, public health burden caused by ZIKV infection is not well elucidated though ZIKV is endemic and the principal vectors are widespread. Thus, determination of the extent of ZIKV outbreak is of particular importance in the region.

As researchers, we have been conducting cross-sectional virological and serological analysis to determine possible ZIKV outbreaks and their geographical spread in Vietnam and Myanmar in collaboration with WHO, DMR in Myanmar and NIHE in Vietnam. As of 2017, 232 Zika cases had been identified in Vietnam and in 2014; a case of microcephaly-associated ZIKV infection was identified. In Myanmar, 462 samples collected from 2004 to 2017 were subjected to screening and ZIKV infection was found in 4.9% of patients with dengue-like clinical symptoms. Our results confirmed the occurrence of ZIKV infection in two geographically distinct sites in Myanmar since at least 2006 and it suggests a need for continuous ZIKV disease monitoring and a better understanding on the ZIKV disease spectrum in the region.

Most recently, another ZIKV-related microcephaly case was confirmed in Thailand. It should be noted that the case was caused by the Asian Lineage ZIKV which is supposed to already spread to a wide area in Asia. Therefore, ZIKV infection will continue to be one of the public health problems and will pose a burden to the society. To approach the problem which has now become a global health issue, this needs a cooperation among the different sectors of the society in which people of different professions such as virologists, entomologists, physicians, nurses, medical technologists, policy makers, health economists, epidemiologists, have to work together to address the ZIKV disease in terms of detection, prevention, care and support and research.