

# The Threat of Emerging and Re-emerging Infections in Indonesia

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Indonesia with the total population of 225,741,973, is one of the rapid developing countries that faces some serious challenges in health sector. The top 10 cause of deaths mixed between infection and non-infection causes. The high incidence of infection, the increasing number of non-communicable disease and the re-emerging illness makes it a triple burden, and all need to be managed concurrently and accordingly.<sup>1</sup> While factors contributing to the health problems such as the demography changes, urbanization, mass travelling and also global warming are not be easily to modified.<sup>2</sup>

Human immunodeficiency virus (HIV) is one example of an emerging infection with total of 386 district of all province in Indonesia reported having such infection; with cumulative number of HIV infected patient from the year 1987 to 2014 is 150,296 while AIDS is 55,799 patients. The access to care only available for 153,887 patients among all HIV/AIDS patients of whom 70% are eligible for anti-retroviral (ARV) treatment and of these only half adhered to ARV treatment.<sup>3</sup> In addition to that, there is an increased risk of other emerging diseases such as Zika virus, Monkey pox or Hanta pulmonary syndrome since a sporadic cases were reported around the region.<sup>4</sup>

Beside new diseases, tuberculosis, dengue virus, malaria and diphtheria are continuously reported in Indonesia and classified as re-emerging illnesses.<sup>5</sup> On this edition data on diphtheria epidemiology in Indonesia will be

shown by Karyanti et al.<sup>6</sup> A recent outbreak of diphtheria in Indonesia which involved almost all province in the country has led to a response named ORI (outbreak response of Immunization). Regardless of immunization, proper treatment including the distribution of anti-toxin and antibiotics are needed to stop the spread of this particular bacteria, further decreasing the mortality rate.<sup>6</sup> In conclusion, the author of this paper mentioned that immunization gap needs to be handle systematically. Immunization data released on 2017 showed that complete immunization was given only to 20% of targeted group, while almost 75% were either unvaccinated or unknown.<sup>7</sup> During the outbreak of diphtheria in Indonesia, the WHO also reported several countries with similar problem such as Bangladesh, Haiti and Yamen. It was shown that a coordination between doctors in clinic/hospital with public health officer to conduct an epidemiological investigation, in conjunction with giving prophylaxis and assuring the logistics of anti-diphtheria toxin and antibiotics were accessible were the key of success in eliminating diphtheria like it was in Bangladesh.

Adherence to treatment are multifactorial for all illnesses. First, is the duration of treatment and the potential adverse event due to the medication. The Ministry of Health of the Republic of Indonesia has support the early diagnosis of HIV and delivering treatment as soon as possible, in order to avoid transmission of the disease. Second, looking at another side of the

story for HIV infected patients, receiving ARV treatment as a long life treatment could possibly cause an adverse event somewhere along the line. Budiman et.al reported factors that might contribute to liver injury. His study shows that measuring baseline liver function test AST routinely might minimize the toxicity of ARV to patients particularly with a low body mass index. Last, despite the adherence to treatment and procedures in minimizing the risk of adverse event to medication, we are now facing the primary resistance virus that transmitted in the community as mentioned by Megasari et al.<sup>8</sup> on her report regarding the transmission of drug resistance HIV virus to naïve patients in Bali.

The Indonesian government through the Indonesian Ministry of Health has established a collaboration and one health approaches to tackle the threat of diseases in the country, particularly in infectious diseases.<sup>9</sup>

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