ABSTRACT

Since firstly reported in early March, the COVID-19 has rapidly spread out in Indonesia, impacting significantly on health, social, and economic condition and causing a large number of fatalities. This study aims to describe the epidemiology curve of Indonesia in comparison with neighboring countries, Australia and Malaysia, along with the possible factors affecting the curve. This study employs the Susceptible-Infected-Recovered (SIR) model to portray the disease development in Indonesia from the emergence to the end period projection. The result shows that up to the end of July, the epidemic curve of Indonesia seems to continue to elevate despite the measures taken by the government. Meanwhile, in Australia and Malaysia, as a comparison, the curve has shown a flattening trend and bell-shaped curve with much lower fatalities. Based on the SIR model estimation for the Indonesian case, to achieve a bell-shaped epidemic curve it takes much longer time. From the information gathered, the shape of the curve is determined by several factors, including biological factor, environmental condition, demographic condition, strictness of measures implementation and social attitude towards pandemic awareness. Nevertheless, it is worth noting that the study uses COVID-19 data up to the end of July.

Keywords: *COVID-19 Pandemic, Government-measures, epidemiology curve, SIR Model, Comparative Study*